King County METRO

KING COUNTY
WATERBORNE TRANSIT POLICY STUDY

Task 2: Regional and Industry Experience

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506 Second Ave
Suite 600
Seattle, WA 98104

IBI GROUP

in association with **Elliott Bay Design Group • Jacobs Civil • Mirai Associates • Progressions**

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1. INTRODUCTION

King County Metro, as part of the update to the Six-Year Transit Development Plan, developed Strategy S-14 to implement a work program to determine under what conditions and circumstances it may be appropriate for King County to invest and/or participate in passenger ferry service. IBI Group is currently assisting King County Metro staff in undertaking the *Waterborne Transit Policy Study,* which has four primary objectives as follows:

1. Present an objective identification and assessment of King County's potential role in providing waterborne transit services.

2. Identify and assess the feasibility of potential models for passenger only ferry service in terms of operations, financing and funding, partnership opportunities, and impacts on other transit services.

3. Develop objective criteria that can be used to identify and assess routes options, and provide a framework for discussions with stakeholders and senior decision makers.

4. Identify options, concepts, feasibility, effectiveness and trade-offs associated with offering services between Seattle and Vashon, Downtown Seattle and West Seattle, and across Lake Washington and Lake Union.

The purpose of this *Task 2 Regional and Industry Experience* paper is to: 1) summarize the results and findings of previous, relevant studies related to the provision of waterborne transit service in the Central Puget Sound region; and 2) summarize the experience of selected peer agencies or organizations who operate waterborne transit services. The intent of this paper is to identify relevant issues, options, considerations and best practices for this study based on previous studies and the experience of others.

1.1 Methodology

The methodology for this task involved two key components:

1. The first part of the task involved collecting and reviewing approximately 30 previous studies relevant to the provision of passenger-only ferry services in the Central Puget Sound area, focusing specifically on studies related to services between Downtown Seattle and West Seattle, Seattle and Vashon Island, and across Lake Union and Lake Washington. This component is discussed in this report in Section 2, Literature Review.

2. The second part of the task involved conducting surveys and telephone interviews with eight agencies and companies that operate waterborne passenger-only transit services. A series of questions were prepared and used as the basis for the telephone interviews, sent in advance to each of the agencies to allow time to prepare responses. The feedback received from these agencies is discussed in Section 3, Ferry Operator Interviews.

1.2 Key Findings

1.2.1 CURRENT ENVIRONMENT

Over the past twenty years, potential passenger-only ferry services serving King County destinations have been studied numerous times. Most studies have concluded that the proposed services were not viable. Previous passenger-only ferry services have often had a rocky history or poor longevity. Examples include the Washington State Ferries Bremerton – Seattle route (initiated in 1986, cancelled in 1989, resumed in 1990, cancelled in 2003) a privately operated Seattle – Kingston – Port Townsend route (lasted one season in 1990), and the proposed Sound Transit trans-Lake Washington service that was never implemented. While this past analysis and performance suggest poor prospects for passenger-only ferry services, there have been several recent changes in the legal and operating environments that may increase the potential for successful passenger-only ferries serving King County destinations.

In 2003 the Washington State Legislature made several key changes to state law, which substantially reduced the legal barriers to passenger-only ferry service. Prior to 2003, it was illegal for a ferry operator to implement service within ten-miles of a Washington State Ferry terminal. In 2003, an exception to this limit was granted for all passenger-only ferries. The state also authorized King County to create a County Ferry District and authorized Public Transportation Benefit Areas (PTBA) in counties bordering Puget Sound to implement passenger-only ferry services and to collect taxes for the purpose of funding those services. County Ferry Districts and PTBA were also authorized to enter into public-private partnerships or other alternative procurement processes. Furthermore, the new laws enable passenger only ferry operators – public or private – to lease, rent or purchase existing state owned passenger-only ferry infrastructure (vessels and terminals).[1]

Changes in transportation and development in King County also contribute to a more favorable environment for passenger-only ferry services than in previous years. Increasing congestion on the county's roads and bridges strengthens the relative competitiveness of waterborne transit. Congestion will be compounded in upcoming years, as several major construction projects get underway. The replacement of the Alaskan Way Viaduct and reconstruction of I-5 will impact travel to downtown Seattle. The SR 520 bridge replacement and planned I-405 construction will make it more difficult to cross Lake Washington and worsen congestion on alternative routes. Construction impacts will ripple throughout the transportation network increasing hours of congestion or spreading congestion to road segments that experience little congestion today. In addition, planned waterfront developments are creating housing and employment rich communities along Lake Union, Lake Washington, and Elliott Bay shorelines.

1.2.2 CUSTOMER CHOICE

Studies in the Bay Area and Seattle have identified several key factors in travelers' decisions to use waterborne transit. Many of these factors are similar to reasons that travelers choose to use public transit as an alternative to auto-based travel.

- **Ability to avoid traffic.** If alternative land-based routes are highly congested, water-based transit may be more competitive in terms of real or perceived travel time, and in terms of the level of stress associated with making a trip.

- **More convenient.** Depending on the traveler's origin and destination, a water-based route may be inherently more convenient than the land-based alternatives. Waterborne transit may also be more convenient if it makes the traveler's origin to destination trip more direct, requires fewer or better timed transfers, or if parking at the traveler's destination is inconvenient and unreliable.

[1] However, certain restraints placed on the lease, rent, or sale of state facilities may reduce the feasibility of this opportunity.

- **Less expensive.** Waterborne transit is most often perceived as less expensive that land-based modes in the situation of high parking prices. With rising fuel prices, travelers may become more sensitive to the per-mile cost of driving, though high fuel prices are likely to necessitate higher ferry fares as well. Some travelers are less sensitive to this factor than others and may be willing to pay a higher price to use waterborne transit if other factors are met.

- **Travel time.** In order to be competitive, waterborne transit should have a comparable or better door-to-door travel time than alternative land-based modes.

- **Reliability.** Reliability has two components – the reliability of daily operations and the ultimate longevity of the service. Travelers need to be able to depend on minimal cancelled sailings and consistent on-time performance. In order to make long-term housing and employment decisions, travelers also need to be able to count on a service being available for the foreseeable future.

- **Enjoy the scenery.** The beauty and quality of the travel experience are the most common "intangible" reasons given for choosing waterborne transit over alternative modes.

- **Need for flexibility.** Some people have exactly timed, consistent schedules, but many people have daily schedules that vary to some degree from day to day. Travelers may not use a ferry service that would generally meet their needs if they are concerned that they could be stranded if their schedule were to change suddenly.

1.2.3 SUCCESS FACTORS

Successful services can serve varying markets, but to be successful, services need a synergy of vessel type, terminal location and context, transportation connections, service frequency, travel time, and relative strengths compared to alternative modes. Three very different services illustrate this point: Vallejo BayLink Ferries, Vancouver SeaBus, and Victoria Harbour Ferry Company.

Vallejo BayLink Ferries, which has been in operation for 19 years, is primarily an express commuter service from Vallejo to San Francisco. Riders come from throughout Solano and neighboring counties, typically driving and parking at the Vallejo terminal. Travelers disembark at the terminal in downtown San Francisco and generally either walk or take Muni (streetcar) to their final destinations.

The ferry serves a geographically dispersed population, uses private automobiles as its primary feeder mode, and then delivers its riders directly to a location of high employment concentration. A high speed vessel makes the ferry's travel time competitive with land-based modes. Eleven daily trips including midday service, with service starting at 6:00 AM from Vallejo and extending to 8:40 PM from San Francisco, provide travelers with reassuring flexibility. Additional back-up is provided by Vallejo Transit bus service, which connects the two ferry terminals and runs until 9:30 in the evening.

SeaBus, in Vancouver BC, has been in operation for 28 years serving the needs of commuters and recreational users. The service connects downtown Vancouver and the North Shore in 12 minutes, with sailings every 15 to 30 minutes. Service is offered 18 hours a day during the week and 14 to 15 hours a day on weekends. The 400-passenger capacity vessels were designed to minimize boarding and disembarking time. From the passenger's perspective the service is frequent and efficient, with a level of service that is appropriately matched to SeaBus's operating environment.

While downtown Vancouver unquestionably has a higher density of uses than the North Shore, the North Shore is also a compact, urban environment. At both ends of the route there is a high concentration of potential riders who can reach the terminal within a reasonable walk or by a convenient public transportation connection. Add to this the fact that SeaBus fares are fully

integrated into TransLink's multimodal system – allowing transfers at no extra cost between SeaBus and other modes – and it becomes clear that SeaBus is a system where barriers to use have been minimized and the level of service offered matches the level of demand inherent in the operating environment.

The Victoria Harbour Ferry Company offers a service very different from the Vallejo and SeaBus services, but one equally well suited to its operating environment. For the past 15 years, Victoria Harbour Ferry Company has been operating a fleet of 12-passenger vessels[2] in Victoria Harbour largely catering to the tourist market. Victoria Harbour has a large number of destinations on the waterfront or directly adjacent to it. The small vessels do not require any specialized docking infrastructure, giving them great flexibility to serve these many destinations. Passengers typically walk from origin to terminal and from terminal to destination. Two of the greatest strengths of the Victoria Harbour ferries are convenience and charm. This type of service would be inappropriate for an operating environment such as Vallejo's and inadequate for the demand served by SeaBus, but the Victoria Harbour operating plan is ideal for the market and operating environment. Victoria Harbour's minimalist service strategy enables it to operate successfully without government subsidy.

1.2.4 FUNDAMENTAL OBJECTIVES

The interviews of current ferry operators revealed the importance of basing the decision of whether to implement passenger-only ferry service on the ability of waterborne transit to help achieve larger transportation and regional goals. Three of the ferry systems studied have been created within the past decade. For each of these, the reason for initiating waterborne transit is still fresh.

Although route-specific passenger ferries have been operated for decades in the San Francisco Bay Area, the **San Francisco Bay Area Water Transit Authority (WTA)** is looking at the bigger picture of how waterborne transit fits into the overall transportation network. The WTA, which is still in the planning stages, is developing up to seven new routes to provide "reliable, convenient, flexible and cost-effective expanded Bay Area water-transit . . . that will get drivers out of their cars and onto environmentally responsible state-of-the art ferries."[3] Air pollution and extreme congestion in the Bay Area give incentives to explore water-based modes

In New York, the **New York Water Taxi** is a private venture. However, the motivation to start the service was not purely economic. The New York Water Taxi founders are self-described environmentalists and long time contributors to parks development and urban revitalization. They see the New York Water Taxi as "an extension of their commitment to improving the city and helping others to appreciate it more."[4]

Kitsap Transit provides a local and strong example of new service being driven by specific goals. Kitsap Transit chose to assist economic development in Bremerton and other Kitsap waterfront cities by supporting the creation of fast, reliable passenger-only ferries. Kitsap Transit sees passenger-only ferries as a means to help achieve growth management goals and stimulate economic development, reduce congestion, enable streamlining of bus transit operations, and assist in the creation of a Kitsap County that is a viable operating environment for Kitsap Transit.

The King County Transit Division 2005-2006 Mission and Goals can be a starting point for considering whether waterborne transit would address stated goals or identified problems in King County. These goals are as follows:

[2] The Victoria Harbour Ferry vessels are not ADA accessible.
[3] http://www.watertransit.org/about_us.shtml
[4] http://www.nywatertaxi.com/nywt.aspx?s=abo&c=who

Exhibit 1-1: King County Transit Division 2005-2006 Mission and Goals

Mission: Provide the best possible public transportation services and improve regional mobility and quality of life in King County.		
Goal I:	**Provide the transportation products and services needed by citizens, businesses and communities.** Plan, construct and operate reliable, safe and convenient transportation services that provide competitive alternatives to driving alone and are responsive to the needs of citizens, businesses and communities.	
	Objective 1:	**Continuously improve our products and services to efficiently and effectively meet the mobility needs of citizens, businesses and communities**. Continuously improve our products and services to increase ridership by attracting new customers and retaining existing ones.
	Objective 2:	**Ensure both the short- and long-term viability of public transportation programs.**
Goal II:	**Be an active regional partner.** Work with others to develop and implement integrated plans for transportation, land use and growth management.	
	Objective 3:	**Enhance transportation plans and services through regional partnerships.**
	Objective 4:	**Improve environmental quality.**
Goal III:	**Be an outstanding place to work.** Provide an effective, customer-oriented work force that reflects the diversity of the community.	
	Objective 5:	**Improve our organization's culture.** Continue to improve our organization's culture to reflect customer orientation, collaboration, continuous improvement, innovation and diversity.
	Objective 6:	**Be responsive to the community and our customers.**

Waterborne transit could potentially address Goal I by providing "reliable, safe and convenient transportation services that provide competitive alternatives to driving alone" and "attracting new customers." However, the ability of waterborne transit to meet these goals and objectives would be dependent on the characteristics of each specific route. Waterborne transit could also support Goal II, depending on the location of terminals, net air quality impacts, and the involvement of regional partners. Again, the extent to which waterborne transit could help achieve these goals and objective would vary based on the characteristics of each route.

2. LITERATURE REVIEW

Thirty previous studies related to the provision of waterborne transit services in the Central Puget Sound region and beyond were reviewed. The studies dated from 1985 to the present and covered services operated or considered by Washington State Ferries, Kitsap Transit, Pierce Transit, King County, and others on Puget Sound, Lake Union, and Lake Washington. The studies were summarized in terms of document objectives; major recommendations; specific findings or recommendations related to governance, capital assets, operational program, and financial structure; and other relevant specific findings. The details of the literature review are contained in **Appendix A**.

Findings from the literature review are summarized below under five major headings: Overall Findings, Policy Environment, Terminal and Vessel Considerations, Service and Operational Planning Considerations, and Financing Considerations.

2.1 Overall Findings

Some of the key overall findings from the literature review are as follows:

- Passenger-only ferry service may have a role in Central Puget Sound providing connections between points not served by an auto/passenger ferry route or where passenger ferry service can offer shorter crossing times than the auto/passenger ferry.

- While passenger-only routes may be viable from a demand standpoint, there are difficulties in locating the necessary docks, parking and transit facilities near major concentrations of employment or activity centers.

- Auto access and parking are considered critical to the success of a passenger-only service. In addition, the ferry service needs to have convenient connections to bus or shuttle transit or be located within walking distance of downtown business districts.

- Travel times of the ferry need to be competitive with other modes of travel in order to attract ridership.

- Terminal design needs to facilitate rapid loading and unloading with easy access to other transit modes and must be sensitive to environmental concerns and fit within the local community.

- Transit agencies can play a role in the provision of waterborne transit by providing ground connections and by supporting vessel acquisition. Further, transit agencies can coordinate scheduling and implement fare integration.

2.2 Policy Environment

Decisions of whether or not to provide waterborne transit services and if so, how, must be made in the context of the local policy and regulatory environment. Key issues identified from the literature review include:

- In 2003, the State Legislature lifted an old rule restricting operators from having routes within a ten-mile radius of state operated ferry crossings. The Ten-Mile restriction no longer applies to the operation of passenger-only ferry service by Public Transportation Benefit Areas, ferry districts, or private operators.

- Public Transportation Benefit Areas can be created in the counties bordering Puget Sound for the purpose of providing passenger-only ferry service. However, according to Sections 206 and 207 of the Engrossed Substitute House Bill (ESHB) 1853 (codified at RCW 82.80.130 and 82.14.440 respectively), a PTBA in an Regional Transit Authority area may not levy an MVET or Sales and Use Tax to fund passenger ferry service, leaving the collection of fares, licensing agreements, and leases as the only source of revenue for a PTBA to operate a passenger-only ferry.

- Counties with a population of over one million persons and having a boundary on Puget Sound may adopt an ordinance creating a ferry district. Currently this applies only to King County.

- A PTBA or a county operated transit system could fund passenger ferry service from within its existing taxing authority.

- Counties and Public Transportation Benefit Areas may enter into contracts and agreements to operate passenger-only ferry service; into public-private partnerships; and into design-build, general contractor/construction management, or other alternative procurement process. The San Francisco Bay Area Water Transit Authority (WTA) provides an example of a Public Transportation Benefit Area created for the purpose of providing passenger-only ferry service. The California Legislature created the WTA in 1999 (California Government Code Section 66540-66540.72).

2.3 Terminal and Vessel Considerations

Relevant terminal and vessel considerations identified from the literature review include:

- Public Transportation Benefit Areas and ferry districts may enter into an agreement with Washington State Ferries to lease, purchase, or rent terminal space, passenger-only vessels, or related equipment for purposes of loading and unloading passenger-only ferries. WSF currently owns two 350-passenger capacity and two 250-passenger capacity passenger-only ferries.

- WSF terminal facilities include parking, terminal buildings and/or pedestrian waiting areas, and public transit connections. Terminals also include the systems and structures that allow boat loading (and unloading) from the groundside: gangway floats, trestles, bridges, towers, transfer spans, wing walls, and dolphins.

- Private operators of passenger-only ferries may have access to terminal, dock, and pier space if the space can be made available without limiting the operation of car ferries operated by WSF and the private operator assumes and is bound by any agreement or contract for such operation of any ferry or ferry system entered into by the department.

- Private operators on the Bremerton-Seattle and Kingston-Seattle passenger-only routes own their vessels and use a private docking facility (Pier 55-56) in Seattle. Kitsap Transit may purchase new vessels constructed for the cross-sound service, and allow private operators to uses the vessels to operate their routes.

- Key vessel design issues highlighted in several studies were the need to balance speed and capacity, to provide easy ADA access (also a dock issue), to minimize wake impact, and to minimize emissions.

- Local and national studies emphasized the importance of keeping terminals simple, and locating terminals conveniently relative to passenger origins and destinations.

2.4 Service and Operational Planning Considerations

Key service and operational planning considerations identified include:

- Local and national studies emphasized the importance of addressing the needs and impacts of the origin-to-terminal and terminal-to-destination transportation connections.

- A 1998 study by Puget Sound Regional Council recommended passenger-only vessels to service Seattle-Kingston and Seattle-Southworth. The long-range plan proposed increased park-and-ride capacity to serve growing numbers of walk-on passengers.

- The Kitsap Ferry Company provides service in between the auto ferry departures from Bremerton to Seattle. The service offers time savings over the WSF auto ferries, and provides additional choices for customers. Aqua Express now operates a direct passenger-only route from Kingston to Seattle. This allows a big time and cost savings to passengers compared to crossing over to Edmonds and taking an express bus or driving to Seattle.

- Kitsap Transit also plans to coordinate connecting bus services with ferry departures to alleviate pressures from auto traffic on the terminal areas. A 2004 study by WashPIRG Foundation advocated increased transit service, fare integration, transit-oriented development, improved pedestrian facilities and multimodal funding by state and region.

- Several studies for cross-lake ferry service on Lake Washington have determined that while service may be feasible, long travel times and environmental impacts make the service undesirable. In addition, significant investment would be required in shoreside facilities. It is difficult for ferries on Lake Washington to compete with bus travel times. Further, candidate ferry terminal areas are not accessible to employment / activity centers.

- With respect to maintenance, WSF handles maintenance projects under $50,000 in house, and contracts out work above that amount. Ongoing operations and maintenance costs include fuel, crew, marine insurance, dry-docking, engine maintenance, and other maintenance.

- With respect to passenger-only vessel sizes, the use of smaller vessels (e.g., 149 passengers vs. 350 passengers) can reduce operating costs and increase system flexibility.

- With respect to service, ferry speeds need to balance competitiveness with other modes, wake generation, and impacts on vessel design and fuel consumption. Schedules should include allowances for potential delays as a result of poor weather conditions.

- Studies conducted in Seattle and the Bay Area identified the following factors as significant to the choice of whether or not to use a passenger-only ferry service when alternative modes are available:

    - Proximity of user's home to ferry service
    - Travel time, convenience, and reliability
    - Need for flexibility
    - Insensitivity to transport costs
    - Desire to help the environment
    - Sensitivity to personal travel experience such as personal space and quiet

- A 2002 study found the Elliott Bay Water Taxi was effective in shifting car users onto transit, with up to 27% of users stating that they formerly drove alone. Other studies have found a similarly strong ability for passenger-only ferry services to attract people who previously drove alone.

- A study of potential passenger-only ferry service in Vancouver Harbour found that the two most highly rated organizational structures were TransLink ownership of the vessels with contracted operations and maintenance; or a public private partnership, though the study noted that developing a viable public private partnership could be difficult.

2.5 Financing Considerations

Many of the studies provided information on funding and financing considerations which may be relevant to this study. These include:

- WSF funding resources have included gas tax, tariffs (fares) and registration fees for operations and gas tax and federal sources for capital. In November 1999, voters approved Initiative 695 (I-695), abolishing the Motor Vehicle Excise Tax (MVET) and terminating R-49 bond revenue. This resulted in service cuts.

- Historical revenue goals for WSF were to recover 60% of operating costs from fares. In 2001, the WA State Joint Task Force on Ferries recommended the I-601 waiver to allow tariffs to be adjusted to better reflect operating costs, with the ultimate goal of 80% farebox recovery.

- WSF chose to charge higher fares for passenger-only ferries than for passengers on auto/passenger ferries given the faster crossing times, lower cost recovery of the program (30% versus 62% for the WSF system), and the range of fares charged by other operators on the West Coast for similar service.

- Fares charged by the private ferry operators (Kitsap Ferry Company and Aqua Express) are higher than WSF, reflecting the need to run at a profit (over 100% of operating costs) instead of the 80% recovery required by WSF.

- Public funding related to the new privately operated routes from Kitsap County is initially restricted to supplying extra bus transit service to the ferry terminals, but could expand to include vessel acquisition and service subsidy. Voters rejected a more significant public financing role.

- The San Francisco Bay Area Water Transit Authority (WTA) expects that local jurisdictions (e.g., cities) will provide capital funding for terminal facilities and contribute to operating costs, and is prioritizing the routes that serve jurisdictions that are willing to make those contributions.

- Fare structures can include time-of-day pricing and seasonal differentiation. Lack of a unified fare structure may discourage ridership. The $3.00 one way fare on the Elliott Bay Water Taxi was considered too high by regular transit users (who have other transit options), but appears to have been acceptable to infrequent users (e.g., tourists). Ridership increased when passes were accepted.

- None of the past studies reviewed discussed funding new services from existing public revenue sources.

3. FERRY OPERATOR INTERVIEWS

Interviews were conducted with eight passenger-only ferry operators, covering a diverse range of ferry services: Kitsap Transit, New York Water Taxi, San Francisco Bay Area Water Transit Authority (currently in planning stages), Sydney Ferries, Vallejo BayLink Ferries, Victoria Harbour Ferry Company, and Washington State Ferries. A copy of the interview questionnaire is included in **Appendix B**.

Service owners include a city government, transit agencies (or designated operating subsidiary), private operators, a state government, a regional water transit agency, and a state owned corporation. Vessels range in size from 12 passengers to 300 passengers or more. Systems include between one route and eight routes, and routes served one origin-destination pair or multiple stops. Annual ridership for the eight systems ranges from 200,000 to 14 million passengers. Services provide vital long-distance express links from outlying communities to major cities, fast pedestrian linkages between highly urbanized areas, and fun “harbor hops” between waterfront destinations. Revenue from fares covers between 7% and 100% of operating costs. Multimodal connections are central to service design, plentiful by virtue of terminal location, not a significant consideration, and undesirable. Between the eight ferry operators, almost all options for system management and ownership, financing, terminals, vessels, and operations are included.

Sections 3.1 through 3.8 below provide a summary of the interviews with each of the eight ferry operators and highlight several specific insights for King County. The completed surveys and interview transcripts for each of the operators are provided in **Appendix C**.

3.1 Kitsap Transit

Kitsap Transit is involved in two distinct types of passenger-only ferry operations. Since January of 2004, Kitsap Transit has provided a “foot ferry” between Port Orchard and Bremerton. The service is operated by a contractor and funded by Kitsap Transit. One of the vessels used for the Port Orchard-Bremerton crossing is the recently restored historic Mosquito Fleet vessel Carlisle II (originally built in 1917). The second type of ferry operation is an entirely different arrangement. Within the past year, two private ferry operators have begun providing service on two different passenger-only fast ferry routes, one between Bremerton and Seattle and the other between Kingston and Seattle. The operators are partnered with Kitsap Transit through joint development agreements.

Kitsap Transit entered the passenger-only ferry business as a strategic decision to encourage local development and support customer travel needs. The lack of frequent, reliable ferry connections between many cities in Kitsap County and Seattle was hampering economic development in Kitsap County. Businesses did not want to move to Bremerton, Kitsap County’s largest city. For commuters traveling between Kingston and Seattle, there were two or three different options before the passenger-only ferry, all of which where indirect. Many commuters from northwest Kitsap County would travel down SR 305 to the Bainbridge ferry, increasing congestion on the highway and on the ferry. Kitsap Transit sees passenger-only ferries from Kitsap waterfront cities (in particularly Bremerton, Kingston, and Southworth) as a means to help achieve growth management goals and stimulate economic development, reduce congestion, enable streamlining of bus transit operations, and assist in the creation of a Kitsap County that is a viable operating environment for Kitsap Transit.

Kitsap Transit initially planned to directly manage and fund the operation of cross-Sound passenger-only ferries. However, when Kitsap Transit’s initiative to fund ferry operation failed at the polls, Kitsap Transit entered into joint development agreements with private operators to provide the

service. Today, Kitsap Transit has joint development agreements with Kitsap Ferry Company (for the Bremerton – Seattle route) and Aqua Express (for the Kingston – Seattle route).

Under the joint development agreements, Kitsap Transit is primarily responsible for infrastructure and the private operators are primarily responsible for operations. However, there is quite a bit of variability within those generalizations, and flexibility over time. Kitsap Transit is expected to provide dock and terminal facilities. In Bremerton, Kitsap Transit already owns the terminal. In Kingston, Aqua Express built the dock and Kitsap Transit is buying it back. The Seattle terminals (at Pier 55/56 for the Kingston route and at Pier 56 for the Bremerton route) are owned by Argosy Cruises an Aqua Express partner. Kitsap Ferry Company leases dock space from Argosy Cruises. The vessels currently in use are owned or leased by the private operators.

The partnership extends beyond the physical assets needed for service. In the future, Kitsap Transit may choose to subsidize additional trips, though no subsidy is used at this time. Kitsap Transit provides political support to the private operators in their discussions with the Utilities and Transportation Commission (UTC) and local cities. By UTC regulations, the private operators are not permitted to make more than 7% profit. If a service is so successful that the allowed level of profit is exceeded, Kitsap Transit can go with the private operator to the UTC and lobby for service changes. In this situation, Kitsap Transit would like to see an expansion of hours of operation with a reduction in fares. Fares would be set so that commuters would continue to pay their own way. While ridership on the new sailings was insufficient to pay the costs of making the sailings, Kitsap Transit would pay for the number of tickets needed for the operator to break even (e.g., to achieve break-even load factors).

Kitsap Transit plans to develop a fleet of 149-passenger vessels. There are several advantages that Kitsap Transit sees in 149-passenger vessels as opposed to larger vessels. To start, 149-passenger vessels can be evacuated faster than their larger counterparts. As a result, the Coast Guard requires 149-passenger vessels to have fewer redundant systems. Fewer redundant systems result in a lighter vessel, better fuel efficiency, and lower costs per seat mile. The smaller vessels are also not subject to the same Coast Guard search and seizure requirements as larger vessels, as they have been classified as too small to be a likely target for terrorist attack. Kitsap Transit hopes to achieve fuel efficiency of 100 gallons/hour on the vessels they purchase, and is working with local boat builders on innovative designs. At a minimum, the vessels will meet the Environmental Protection Agency's (EPA) 2007 emissions standards. Kitsap Transit plans to use ultra low sulfur fuel. By purchasing vessels and providing them to the operators, Kitsap Transit expects to equip the routes with vessels which have better fuel efficiency, are less polluting, and are more comfortable than what private operators would likely buy.

Wake is a major issue that Kitsap Transit is working to address. The Kitsap Ferry Company route between Bremerton and Seattle runs through Rich Passage, site of an internationally known lawsuit brought against Washington State Ferries (WSF) by local property owners as a result of wake damage caused by WSF's Chinook class passenger-only vessels. Currently, the Kitsap Ferry Company reduces speed through Rich Passage to avoid wake damage, which results in a crossing time of 40 minutes. Kitsap Transit hopes to achieve a 30 minute crossing time through the use of a specially designed low wake vessel. Kitsap Transit is watching with interest the federally funded Seattle-Bremerton Passenger Only Fast Ferry Study. Research is being conducted by Pacific International Engineering (PIE) to understand the response of the shorelines of Rich Passage to fast ferry service. The research, which is underway right now, will include several months of experimental trials of a state-of-the-art foil-supported low-wake catamaran. At the conclusion of the study, PIE will have developed models and other tools that can be used to evaluated potential vessel designs. Kitsap Transit plans to make use of these tools to purchase a vessel that is specifically designed to make the Bremerton-Seattle crossing in 30 minutes without causing wake damage in Rich Passage.

Kitsap Transit had these key lessons to share:

- Don't try to do it on your own. Work with private operators as allies. Develop a relationship with specific operators and then use a sole source contract with them.

- Have the UTC be the one to review the operators' books, it will eliminate a large administrative burden.

- 149-passenger vessels have many advantages over larger ferries.

3.2 Washington State Ferries

Washington State Ferries (WSF) is the largest ferry system in the United States. Most WSF ferries are passenger-vehicle ferries, and are considered extensions of the highway system. However, in the 1970s and 1980s WSF began to explore implementing passenger-only ferry services. Initially, WSF viewed passenger-only ferries as a potential way to reduce the number of vehicle ferry sailings. The 1985 long-range plan called for passenger only routes connecting Bremerton and Vashon with downtown Seattle. In 1986, service was started between Bremerton and Seattle. Despite the popularity of the passenger-only service, WSF found that riders were resistant to reductions in the number of vehicle ferry sailings. A key factor in this resistance was the frequent mechanical problems experienced by the passenger-only vessel, which resulted in a service that was less reliable than the vehicle ferry.

Bremerton-Seattle service was cancelled in 1989 due to budget constraints. The following year, service between Bremerton and Seattle and Vashon and Seattle was resumed following the purchase of two 250-passenger vessels, the Skagit and Kalama.

In 1993 there was a paradigm shift from viewing passenger-only ferries as a replacement for vehicle ferry sailings to viewing them as a supplement to the vehicle ferry system. Between 1993 and 1998 plans were made for WSF passenger-only ferry service expansion, two new 350-passenger vessels were purchased, and funding was provided (through Referendum 49) for new terminals at Kingston and Southworth. Washington State Ferries was in a good financial situation and demand was growing faster than predicted. Then in 1999, passage of Initiative 695 led to the repeal of the State's Motor Vehicle Excise Tax (MVET). Loss of the MVET was a major financial blow for WSF, resulting in close to a 75% reduction in capital funds and a 50% reduction in operating revenues. Between 1999 and 2003, weekend service was eliminated and fares were increase substantially on the two passenger-only routes. In 2003, the Bremerton – Seattle route was discontinued. Funding was continued for the Vashon – Seattle route through June 2005. The 2005 legislature extended funding for the Vashon-Seattle passenger ferry service through June 2007 and funded a joint House/Senate Transportation Committee study to determine the most appropriate way to provide passenger ferry service to Vashon and Southworth.

WSF recently published a *Ten-Year Passenger Strategy for Washington's Multimodal Ferry Transportation System*, which calls for the continuation of the Vashon service through a triangle route serving Vashon, Seattle, and Southworth. Whether the Legislature will fund this proposed service in the future is uncertain. Currently, the Legislature is split as to whether WSF should provide passenger-only ferry service at all.

Washington State Ferries has three key lessons to share with King County:

- Make sure there is a market for a proposed ferry route before committing to it.

- Wake issues and environmental concerns should be at the forefront of system planning.

- The reliability of funding is crucial.

3.3 New York Water Taxi

The privately owned New York Water Taxi (NY Water Taxi) began service in the New York City area two and a half years ago. Today, NY Water Taxi operates three year-round peak-period commuter routes and one route that provides all-day service in the summer (weekdays and weekends).

The NY Water Taxi system includes stops at thirteen terminals. A small number of terminals are owned by NY Water Taxi. The remainder are owned by public entities, including the City of New York and port authorities, or by private owners. Typically, NY Water Taxi leases non-owned dock facilities on an exclusive use basis. However, the City of New York, which charges landing fees for use of its docks that vary by time of day and frequency of use, does not grant exclusive use.

The NY Water Taxi is entrepreneurial in nature, choosing routes and markets based on opportunities to partner with public, for profit, and non-profit organizations to help fund the service and/or achieve fundamental objectives. Ridership is increasing and NY Water Taxi is working to expand the number of routes and terminals served (four new terminals are currently under construction). NY Water Taxi has worked with the City of New York to secure $5 million in federal dollars and $1.5 million in city dollars for the construction of new docks suitable for water taxi use. NY Water Taxi also works with local sponsors, such as private housing developers and large employers, to develop new connections. The private sponsors will guarantee a certain number of riders (pledging to pay the difference if actual ridership is lower) and in exchange NY Water Taxi provides service to their housing development or business. NY Water Taxi terminals have small foot print – a 20 foot by 30 foot float with a ramp to the pier. None of the terminals have raised neighborhood impact issues.

Approximately 45% of trips made on NY Water Taxis are recreational or tourism related. NY Water Taxi has several partners in this aspect of its business as well. NY Water Taxi has teamed with the National Parks Foundation, the Audubon Society, and the Brooklyn Historical Society to provide three different harbor tours that include recorded audio tours narrated by experts and famous figures (e.g., authors and naturalists). NY Water Taxi also offers educational tours of New York's transportation system for school groups.

The president of NY Water Taxi is a self-described environmentalist, and the company has taken steps to address both emissions and wake impacts. NY Water Taxi is currently participating in research sponsored by the New York State Energy Research and Development Authority and the New York City Department of Transportation with the goal of reducing nitrogen oxide (NO_x) and particulate emissions. NY Water Taxi has also looked into the use of natural gas and hybrid vessel engines, but has concluded that these technologies are not reliable enough at this time for commercial use. In terms of wake impacts, the NY Water Taxi vessels have been designed to have minimal wake. The wake impact standards established for Rich Passage were taken as the basis for the maximum allowable wake from the NY Water Taxi vessels. Operating is such a highly developed area, NY Water Taxi is also sensitive to noise impacts it may have on its neighbors. To address noise concerns, NY Water Taxi vessels are equipped with mufflers that meet noise limits near hospitals.

NY Water Taxi is not currently integrated with land-side transit service. NY Water Taxi would eventually like to establish both fare and schedule integration with Metropolitan Transit Authority (MTA).

As a key lesson learned, New York Water Taxi urges King County to consider a public-private partnership for providing passenger-only ferry service. Public ownership of terminals and vessels enables access to public capital. Private operators are entrepreneurial and can get the best return on investment. Additionally, public ownership of terminals and vessels would mean that the county

could simply get a new operator if one operator went out of business – helping to ensure some level of continuity of service.

3.4 San Francisco Bay Area Water Transit Authority

Unlike the others interviewed, the San Francisco Bay Area Water Taxi Authority (WTA) is still in the planning stages, and has not yet begun providing service. The WTA was created in 1999 by the California State Legislature as a regional agency with authority to operate a comprehensive water transit system in the San Francisco Bay Area. The primary impetus for the creation of the WTA is the Bay Area's severe congestion. Currently, existing land-based transit (both bus and rail) and road systems in the region are at full capacity. Water transit is being approached as an opportunity to provide additional transportation capacity at a reasonable cost.

Six independent operators provide water transit services in the Bay Area today (including Vallejo BayLink Ferries, see interview below). The WTA is planning to add up to seven additional routes. The WTA is planning to provide centralized customer information for both existing and new services (for example, on its website)[5]. However, WTA is not planning to provide existing private or public water transit operators with direct funding.

Anticipated operating funding sources for the WTA include subsidies from regional government and the federal government, as well as potentially from local municipalities. By law, ferry operators in the San Francisco Bay Area must achieve a farebox recovery ratio of 40% or better in order to qualify for government subsidy. A primary funding source for the WTA will be monies from bridge tolls. In 2004, voters approved Regional Measure 2, raising regional bridge tolls from $2 to $3. The WTA will receive approximately $14 million per year from Regional Measure 2 to fund the operation of three routes (opening 2007, 2008, and 2009), plus an additional $3 million annually for system wide operating costs. System capital funds are anticipated to include $84 million from Regional Measure 2 plus state and federal subsidies.

Environmental considerations have been a particular focus for WTA. Research has been done, and continues to be done, into emerging low emissions vessel technologies. Current plans include purchasing vessels that will produce emissions levels 85% better than the 2007 EPA standards for marine engines.[6] Vessel wake has also been considered in vessel planning, with a double-hulled catamaran being the chosen design.

All terminals for the seven proposed routes will be new. None have yet been constructed. WTA will own all dock facilities and will not share dock facilities with other users. Passenger amenities will be minimal, and include ticket sales (most likely ticket vending machines) and covered shelter. Parking will also be provided at terminals. Funding is planned for feeder bus service from terminals to nearby transit stops and fare integration with land-base transit is planned. Terminals will likely be located near bus transit and shops, and WTA hopes that terminals will stimulate transit oriented development. However, WTA is not partnering with developers.

3.5 Vallejo BayLink Ferries

Vallejo BayLink Ferries operates one route between the city of Vallejo and downtown San Francisco. Service is provided year round, with sailings between 6 AM and 10:30 PM weekdays, and 8 AM and 10:30 PM weekends. Vallejo BayLink Ferries (VBF) is owned by the City of Vallejo, and directed by the city council. The City contracts with a private ferry operator who operates and maintains the vessels.

[5] www.watertransit.org
[6] www.watertransit.org/about_us.shtml

The ferry service is fully integrated with Vallejo Transit, with buses and ferries providing coordinated and complementary connections between Vallejo and San Francisco, as well as Vallejo Transit providing service from the ferry terminal to other Vallejo destinations. For San Francisco transit connections, VBF provided a San Francisco Municipal Railroad (Muni) pass sticker on their monthly passes at no charge until April of this year. Currently, Muni stickers are optional and cost an additional $15. The change is a result of increasing costs to VBF of the Muni pass.

Vallejo BayLink Ferries conducted a passenger survey in 2004 that provided several insights into passenger habits and preferences. Most survey respondents answered the survey for a trip made on one of the morning sailings from Vallejo to San Francisco. Not surprisingly, approximately 90% of respondents indicated that the trip was a commute trip. Most respondents arrived at the Vallejo terminal by car (85%), where free parking is provided by VBF, and traveled from the San Francisco terminal to their final destination by foot (63%) or Muni (35%). The majority of respondents indicated that they could have made the trip by car. The top four reasons for using Vallejo BayLink Ferries rather than driving were to avoid traffic, because it is more convenient, because it is less expensive than driving and parking, and to enjoy the scenery. Most respondents use VBF four or more days per week, and many respondents have been riding VBF for three or more years (the service has been in operation for 19 years). The types of comments made by respondents reflected the frequent, long-term use of the service and the length of the crossing (close to one hour). Customer concerns included missing a sailing due to too many passengers, insufficient “personal space” provided by the seating arrangement on the smallest vessel, bright lighting making it difficult to sleep, uncomfortable seating, limited food options, and lack of cover for waiting areas.

When VBF purchased its newest vessel, the MV Solano, emissions were an important consideration. Vallejo BayLink Ferries chose an engine equipped with selective catalytic reduction (SCR). The SCR system reduces nitrogen oxide (NO_x) emissions by 60%, a better reduction than required by the Environmental Protection Agency’s (EPA) 2007 regulations. So far VBF is happy with the performance of the MV Solano, though the SCR increases operating costs.

All VBF vessels are capable of 38 knots. Wake issues have arisen, and have been successfully addressed through education efforts by VBF and by VBF’s willingness to adjust speeds where appropriate to minimize impacts. There have been two distinct impacts, with two distinct responses, that VBF has had to address. The first is shore impacts. In particular, there is a neighborhood of houses near the Vallejo terminal that has been built on wooden pilings beside a sandy beach. To minimize potential damage to these properties, vessels travel at 10 knots (a speed at which the vessel does not produce a detectable wake) until past this beach. The second issue was with other water users, particularly tug and barge operators. Barge operators would request that VBF vessels slow to 18-20 knots when passing. However, the wake produced by the VBF vessels is actually greater at 18-20 knots than it is at 35 knots. Vallejo BayLink Ferries worked to educate other boat operators about the nature of their wakes. Now VBF has a reputation for being able to go fast and still generate a low wake.

Vallejo BayLink Ferries is working to increase service. Since 1997, service was increased from five trips a day to 11 trips a day and two vessels were added. In April of 2005, the number of daily trips will be increased to 15. VBF’s long-range plan calls for adding a new vessel every five to six years.

Approximately 65% of VBF’s operating costs are paid for through the farebox. In the past, VBF has had a farebox recovery ratio as high as 88%. The current service goal is that 70% of operating costs be paid for by fares. The remaining 30-40% of operating costs are paid for with bridge toll funds. Each year, VBF goes into the red and then requests enough bridge toll money from the Metropolitan Transportation Commission (MTC) to balance the budget. Vallejo BayLink Ferries is getting an additional pot of money from Regional Measure 2 that will be used to increase service.

Most capital funds come from the Federal Transit Administration (FTA) programs 5307 and 5309, as well as the Ferry Boat Discretionary fund. Approximately 20% of capital funds come from state

sources. Regional Measure 2 will contribute roughly $28 million for improvements to the Vallejo Ferry Intermodal Station. A further capital funding source may become available if a proposed sales tax increase, with funds earmarked for ferry capital projects, is passed in Salano County.

Vallejo BayLink Ferries has three key lessons to share with King County.

- Public ownership with operations contracted to a private operator is the best way to go.
- Parking is a huge issue and must be addressed during planning. Most people want to drive to the ferry terminal and minimize the number of times they change modes.
- Design the service from a commuter's perspective, from the beginning. Vallejo has a Ferry Advisory Committee, which consistently provides great feedback on what is actually important to commuters.

3.6 Sydney Ferries

Sydney Ferries has operated in Sydney Harbour for over 135 years, and has developed into a large, multi-route system with eight routes serving 60 terminals. All routes originate from Circular Quay Ferry Terminal at the foot of the Sydney central business district. Prior to mid 2004, Sydney Ferries was part of the New South Wales state government. However, in response to projected operating losses in the 2003-2004 fiscal year of $34 million, Sydney Ferries was removed from the state transit agency to become a separate State Owned Corporation in order to achieve greater operational efficiency and accountability. Key Performance Indicators (KPI) are being developed to assist in meeting financial and service goals, but are not yet complete.

Sydney Ferries main revenue sources include fares (≈45%), state government subsidies (≈33%), and concessions (≈10%). Government funding comes through three main programs:

- Concession reimbursements are paid by the government when government social policies mandate a reduced fare for a certain category of travelers. The government reimburses the transit provider for the difference between the reduced fare and the full fare. Travelers eligible for reduced fares include blind civilians, school students, tertiary (college) students, unemployed, welfare recipients, pensioners, and retired senior citizens.
- Service level community service obligation is a payment made by the government to reimburse transit providers for operating services, above minimum service level obligations, that would not be commercially justifiable.
- Pricing community service obligation is a payment made by the government to reimburse public transit providers for charging fares below the fares charged by most private sector operators.

Schedules for Sydney Ferries are coordinated with the local bus system. Fare integration does not currently exist, but will be implemented between the ferry, bus, and train systems in the near future.

The Sydney Ferry Corporation owns six of the 60 terminals in its system. The rest are owned by town councils (city governments) or Waterways (equivalent of the U.S. Coast Guard). In some cases, Sydney Ferries must pay for use of the facilities. In other cases, the terminals are provided free of charge as an incentive to attract ferry service. It is the responsibility of the terminal owners to decide what passenger amenities to provide, and to provide those amenities. Except at the main terminal facilities, passenger amenities are minimal. Disabled access is a particular issue. Regulations for disabled access are relatively new, and the existing vessels, ramps, and floats were not designed with disabled access in mind. The wide variety of designs also makes retrofitting for disabled access challenging.

Vessel emissions are an issue that Sydney Ferries is just beginning to address. Research into emissions reduction is getting started, including a biodiesel pilot project that is set to begin around mid 2005. Sydney Ferries emissions are not currently subject to any regulations, though that may change if Australia adopts the International Marine Organization standards (IMO) [7].

Sydney Ferries system includes services on the Paramatta River. There have been problems with erosion along the river from the ferries. A solution has not yet been implemented, but Sydney Ferries plans to purchase new vessels with a low wash design for use on the river.

Despite the longevity of passenger-only ferry services in Sydney Harbour, the current organizational structure is less than one year old and there are many challenges that the new corporation is still in the early stages of addressing.

Key lessons that Sydney Ferries Corporation would like to share with King County are:

- Get the right people to run the service. The people running the service should have operating experience, especially marine experience.

- Match vessels, terminals and routes. Vessels should not be purchased before routes are selected – they should be selected to match the conditions and demand on the route for which they will be used.

3.7 Vancouver Seabus

SeaBus has been connecting downtown Vancouver with the North Shore for 28 years. The service is operated by Coast Mountain Bus, an operating subsidiary of the Greater Vancouver Transportation Authority (TransLink). The twelve minute crossing is made by two custom designed 400-passenger capacity vessels. Subway style vessel doors, dock design, and strategic passenger management enable rapid boarding and alighting at terminals.

SeaBus carries approximately 5 million passengers a year. Ridership on the well-established service has stayed the same for several years. About 30% of passenger trips are taken during the peak periods. The remainder make use of SeaBus's long service hours and frequent service even in non-peak hours. On weekdays, service is provided every 15 minutes for over twelve hours beginning at 6 AM. After 6:45 PM, service is provided for an additional six hours with thirty minutes between sailings. Saturday and Sunday have fewer trips, but service still starts between 6 AM and 8 AM, continues until 11 PM or 12 AM, and runs every 15 minutes to half hour. In total, SeaBus operates nearly 42,000 trips a year.

SeaBus fares are fully integrated with TransLink bus and SkyTrain systems. Unlimited transfers are allowed between SeaBus, SkyTrain, and buses, within 90 minutes of ticket purchase. SeaBus's finances are similarly interconnected with TransLink's other transit services. All operating and capital costs are handled through TransLink. Coast Mountain Bus submits a budget to TransLink each year, and TransLink provides 100% of funding. TransLink estimates that 83% of SeaBus costs are recovered through fares, as opposed to 56% for the overall TransLink transit system. TransLink revenue sources include direct gas tax (26%), direct property tax (14%), advertising (1%), concessions (0.1%), and a flat levy on residential electricity bills plus a tax on paid off-street parking (combined 3%). TransLink does not fund capital and operating costs separately.

The SeaBus vessels typically operate at 11.5 knots, but can travel as fast as 14 knots. When SeaBus first opened, the vessels generally ran at full speed. Wake damage was seen, particularly to old docks, and resulted in a court settlement that placed a speed limit of 11.5 knots on the

[7] The IMO standards are very weak and permit emissions well above U.S. regulations.

vessels. About eight years ago, when bridge construction near the route was impacting SeaBus, the limit was lifted. Coast Mountain Bus continues to operate the vessels at 11.5 knots most of the time, so that the schedule can be maintained, but can operate at higher speeds in emergency situations or if a vessel is behind schedule.

The downtown SeaBus terminal is a short walk from bus connections, SkyTrain, and West Coast Express trains. At the North Shore terminal, which is in a more residential setting, buses are timed to meet each ferry sailing. Parking is not provided at either terminal.

The North Shore terminal started out as the "middle of nowhere." Over the three decades of SeaBus service, there has been substantial residential and commercial growth in the area, commensurate with overall growth in the North and West Vancouver areas. Today, developers appear to consider SeaBus an amenity, as it is not uncommon to see a new condominium development advertise itself as "close to SeaBus." With growth in residences near the terminal, SeaBus has had to be more aware of its neighbors. Issues have been minimal (primarily concerning morning noise), as most people seem to understand that SeaBus was there before they moved in.

There are two key lessons that Coast Mountain Bus would like to share with King County:

- Analyze likely pedestrian flows off the ferry, through the terminal, and to the surrounding area. Facilities should be designed so as to achieve a free flow of passengers, even during peak use.

- Consider carefully whether or not to provide restrooms, and do not do so if feasible. Restrooms are provided at SeaBus terminals, but have been more trouble than they are worth.

3.8 Victoria Harbour Ferry Company

The privately operated Victoria Harbour Ferry Company (VHF) has been providing ferry service in Victoria, BC since 1990. VHF operates two routes in Victoria Harbour using a fleet of 14 twelve-passenger vessels. Along with an exemplary safety record, the small vessels are cost effective, reliable, do not require specialized docking infrastructure, and only require a crew of one.

While many ferry services resemble express bus operations, the Victoria Harbour Ferry is more akin to a neighborhood shuttle. The focus of the Victoria Harbour Ferry is to provide convenient links between harbor-front destinations that typically could not be served by larger vessels. The majority of VHF customers walk to and from a dock that is most convenient. A substantial portion of VHF passengers are tourists, but regular users make up about 30% of ridership. The primary markets are reflected in the VHF schedule, which varies with the seasons. During the peak tourist season, the service operates from 9 AM to 9 PM each day. During tourist "shoulder season," the VHF ferries typically operate from 10 AM to 5 PM. In the 2004-2005 winter season, VHF operated a commuter service during morning and afternoon peak commute hours and also a limited tour service. VHF operates seven days a week, and was the only service interviewed that increases the amount of service available on the weekends.

Victoria Harbour Ferry's annual ridership is more than 200,000 and growing. Additional vessel purchases and several new docks are planned. Customer growth and service demand has been fuelled by new marketing programs, increased residential and business locations around Victoria Harbour, and growth in the number of cruise ships visiting Victoria.

Adult fares on the Victoria Harbour Ferry are $3.50 (CD) one way for a one hop trip, or up to $16.00 (CD) for a round trip 50 minute narrated tour. Also available is a 'commuter' pass that provides 12 harbour hops for $30.00 (CD). VHF is free to set fares. All operating expenses are covered through the farebox.

Victoria Harbour Ferry Company does not provide parking at terminals, nor is its service formally integrated with the local transit system. Due to the small size of the vessels, the service is best suited to accommodate a steady flow of passengers arriving by foot. Vessel capacity could easily be overwhelmed by a large influx of passengers arriving simultaneously. Instead, the VHF approach is to provide frequent service intervals, with pick up and drop off locations that are particularly convenient to customers. This model of providing service that is close to and convenient to customers keeps infrastructure costs down and provides a feeder service to transport customers to and from larger capacity systems such as bus, train, or a larger ferry.

The VHF stops at several docks along each of its routes. The ownership and use agreements for these docks vary. VHF owns some of the docks and others are leased on an annual basis from public or private entities. VHF is also permitted to use some privately owned docks at no charge, sometimes with exclusive rights to use those docks. There is real value provided to business owners. For example VHF carries 30,000 passengers annually to a public dock facility that includes a restaurant and coffee shop, outside of the high-density inner harbour area.

The key lessons learned that Victoria Harbour Ferry Company wants to share with King County are:

- Keep it simple.
- Use private sector operation model with cooperation from local government and local communities (including the business community).
- Small vessels help to keep costs down, both operating and capital, vessel and terminal.
- Provide good training and support to operating personnel.
- A minimalist approach is good for the community (including the environment) and does not cost taxpayers.
- Easy connectivity across water bodies using a “harbor hops” model can contribute to economic development and enhance the quality of life for local residents and a unique and memorable experience for out of town visitors.

APPENDIX A

LITERATURE REVIEW

DOCUMENTS REVIEWED

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7. WATER TRANSIT – TRANSIT FEEDER SERVICE SKETCH PLAN MEMO A-10

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15. WSF 1999 TRAVEL SURVEY – ANALYSIS AND RESULTS REPORT A-19

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1. LAND USE IMPACTS OF CROSS-SOUND TRANSPORTATION ALTERNATIVES REPORT

Authors/Participants Puget Sound Council of Governments

Date June 1985

Objectives, Purpose and Scope

This study was conducted to assess land use impacts of various alternatives for Central Puget Sound Area. These alternatives were initially identified in the Washington State Department's long range Plan.

Major Findings or Recommendations

After analyzing eight alternatives as mentioned below it was concluded that the "Preferred Alternative" achieves improved accessibility without introducing changes that would disrupt anticipates growth patterns.

Governance

- N/A

Capital Assets

- N/A

Operational Program

- N/A

Financial Structure

- N/A

Other Specific Findings

For the Central Puget Sound service area eight different alternative service concepts were defined. For each alternative, impact on land use in terms of distribution of population and employment are presented in report. Findings pertaining to individual alternatives are as follows:

- *Alternative 1: Minimum Capital Expansion (No Build)*. Alternative 1 represents a system-wide policy to minimize future capital and operating costs of the ferry system. No new major terminal projects would be undertaken and capital expenditures for vessels would be limited to refurbishment. This alternative results in decreased population growth rate for each of the areas within Kitsap County and a negative impact on overall County growth.
- *Alternative 6: Enhance Bremerton*. Of all the alternatives this alternative results in the strongest positive growth impacts (population and employment) for Kitsap County.
- *Alternative 7: Consolidate at South Kitsap*. This alternative proposes a direct auto-passenger service between South Kitsap and Seattle and a passenger-only ferry service between downtown Seattle and Bremerton. This alternative results in accelerated population growth for South Kitsap at the expense of the rest of the County. There is a positive impact on employment growth in the Seattle CBD, but a slightly negative impact on the Bremerton CBD.
- *Alternative 8: New Southworth-Downtown Seattle Service*. This alternative proposes elimination of Fauntleroy service and introduction of Southworth-Vashon-downtown Seattle triangle service. Impact is the same as those for "Consolidate at South Kitsap" alternative.

- *Alternative 9: Duwamish Terminal*. This alternative is similar to alternative 8 with a major difference of moving Seattle terminal to a new location. Of all the alternatives this has the most severe negative impact on population growth in Kitsap County and Vashon Island. It also has a negative impact on employment growth in both Kitsap County and the Seattle CBD.
- *Alternative 10: Illahee Bridge*. This alternative includes a bridge and connecting roadways between Bainbridge Island and Bremerton and more frequent service on the Seattle-Winslow Ferry. It has moderate impacts on the distribution of population and employment in Kitsap County. Improved travel time due to introduction of a new bridge would be offset by the necessity of a toll on the bridge.
- *Alternative 11: Rich Passage Bridge*. This is a further phasing on alternative 7 with an expanded terminal in the South Kitsap area served by a new two-lane suspension bridge across Rich Passage between Bainbridge Island and the Port Orchard peninsula. This results in a positive impact in South Kitsap and negative impacts in North and Central Kitsap.
- *Alternative 12: Preferred Alternative*. A mix of existing services and new passenger-only service. This alternative proposes maintenance of existing auto-vehicle ferry routes for the Central Puget Sound region and addition of passenger-only ferry service between Bremerton, Seattle and Southworth-Vashon and Seattle. Results in minor redistribution of population to South Kitsap and Bremerton without severely impacting other areas of Kitsap County.

2. CITY OF BELLEVUE – RESOLUTION NO. 4738 CROSS LAKE PASSENGER FERRY SERVICE MEMO

Authors/Participants Leonard Madsen, Transit Planner, Municipality of Metropolitan Seattle

Date May 16, 1988

Objectives, Purpose and Scope

Analysis of the potential for cross-lake ferry service on Lake Washington. City of Bellevue had passed a resolution requesting Metro and the Washington State Department of Transportation to analyze the possibility of a passenger ferry service on Lake Washington to address mobility problems.

Major Findings or Recommendations

While cross-lake ferry service is feasible, long travel times and environmental impacts make the service undesirable. To keep environmental impacts at a minimum, speed limits in key waterways and multiple transfers tend to make the service unattractive. To improve the service, major parking and dock facilities would likely have significant impacts to communities on both sides of the lake.

Staff did not recommend pursuing this system.

Governance

- N/A

Capital Assets

- Major shoreside facilities (terminals, park-and-ride lots and roadway improvements) would be required to support a viable passenger ferry system, which could likely result in major environmental impacts to communities.

Operational Program

- Operational constraints could restrain the application of a high-speed passenger ferry system on Lake Washington (speed, noise, wake controls).·Under optimal conditions, it is not possible for potential ferry patrons to compete with bus travel times (in addition to the disincentives of double transfers). Disadvantages occur because highly accessible terminal sites cannot be located near major activity/employment centers due to existing land use development patterns.

Financial Structure

- Cost-effectiveness of providing ferry service is very questionable given potential high capital and operating costs shared among a limited patron market.

Other Specific Findings

- Staff did not recommend pursuing this proposal. If further study is indicated, it was suggested that this proposal be integrated into PSCOG's West Corridor analysis.

3. WEST CORRIDOR PROJECT TECHNICAL REPORT

Authors/Participants Puget Sound Council of Governments (steering committee included elected officials from throughout the region, and a technical committee included staff of local jurisdictions, transit operators, WSF and PSCOG)

Date March 1989

Objectives, Purpose and Scope

Study methods for improving people-moving ("transit") capacity across Puget Sound and establish the recommendation as part of the regional high-capacity corridor recommendations.

Major Findings or Recommendations

The Executive Board of PSCOG passed a resolution recommending inclusion of general policies encouraging improved transit and ferry services as part of the Regional Transportation Plan, terminal design policies and criteria, improvement of transit linkages, adoption of formal inter-local agreements, and a hierarchy of routes, focusing on immediate consideration of four routes for inclusion in the RTP: Gig Harbor-Tacoma, Kingston-Seattle, Clinton-Everett, Southworth-Seattle. It also included recommendations for further study of other promising passenger-only routes from the mosquito fleet concept analysis.

Governance

- N/A

Capital Assets

- The report included several sketch layouts of "typical" passenger-only terminal facilities, and general guidelines for good intermodal terminals.
- There was also a brief review of high-speed waterborne craft types: hovercraft, hydrofoil, mono-hull and multi-hull (which includes catamarans).

Operational Program

- Analysis started with an initial list of alternatives comprising no-build, bus access improvements (alone and in conjunction with other concepts), expansion of auto ferry capacity, new passenger-only ferry routes, and cross-sound bridges.
- Analysis focused on three refined alternatives: committed alternative (current routes, improved bus service, passenger-only to Vashon and existing Bremerton route); aggressive transit (improved feeder buses, downtown Seattle transit corridor, and passenger-only ferry service); and "mosquito fleet" concept (significant passenger-only ferry service – 19 routes were tested between existing and new terminals).
- Analysis indicated short- to mid-term promise on four passenger-only ferry routes: 1) Gig Harbor-Tacoma; 2) Kingston-Seattle; 3) Clinton-Everett and 4) Southworth-Seattle. Two others were felt to show promise as potential alternatives to expanding auto carrying capacity: Winslow (Bainbridge) – Seattle and Kingston-Edmonds.

Financial Structure

- N/A

Other Specific Findings

- Further detail on population, employment, travel patterns, and modeling assumptions and copies of local resolutions in support of the study findings are in Appendices A and C through M.

4. WEST CORRIDOR PROJECT TECHNICAL REPORT – APPENDIX B

Authors/Participants King County Metro, Municipality of Metro Seattle, City of Bellevue

Date May 1988 (and other documents from 1978)

Objectives, Purpose and Scope

Appendix B contains various materials related to feasibility of cross-Lake Washington ferry service.

Major Findings or Recommendations

King County Metro carried out a review of cross-lake passenger ferry service in 1988 and recommended against implementing such a service. The major findings were:

- Development of a system is feasible but operational constraints exist (speed, noise, wake wash)
- It did not appear possible to compete with bus travel times because candidate ferry terminal areas were not accessible to employment/activity centers without a bus connection at one or both ends
- Shore side facilities could have environmental impacts on adjoining communities
- Cost-effectiveness might be poor given the costs versus ridership potential at the time

Governance

- N/A

Capital Assets

- N/A

Operational Program

- Previous study in 1978 short-listed two possible demonstration routes: West Seattle-CBD and Kirkland-UW. Neither was implemented at the time due to toll bridge restrictions on Evergreen Point (no longer applicable) and concerns with secondary impacts such as terminal parking requirements, shoreline development permits, and approvals from the UTC, USCG (Coast Guard) and USACE (US Army Corps of Engineers).
- 1998 options developed were Kirkland-UW, Beaux Arts-Leschi, and Beaux Arts-UW. Areas with speed requirements (e.g., near Evergreen Point bridge) would limit the effectiveness of air cushion vessels, as those lower speeds would result in drag.

Financial Structure

- N/A

Other Specific Findings

5. A CONCEPT FOR WATER TRANSIT FINAL REPORT

Authors/Participants Port of Seattle (Prepared by consultants: An Association of Bain, Berger, Eager and Schell)

Date November 1989

Objectives, Purpose and Scope

The study was performed to access the potential for passenger-only water transit service on Lake Washington and for expanded service on Puget Sound.

Major Findings or Recommendations

Ridership estimates for the commuter portion of the total potential market is small. By these estimates, the vast majority of trips would still be automobile. However, if these levels of use could be achieved by developing a well-coordinated water transit and shuttle connection system, the contribution of water transit to solving problems in congested corridors could be significant.

Governance

- Water transit offers an attractive opportunity for joint public/private endeavor. No new agency is required. The Port districts can apply their understanding of working with private transportation companies and the transit agencies can apply their knowledge of commuter market. A leadership role for the Port of Seattle was deemed appropriate.

Capital Assets

- Selection of appropriate vessels was done based on key criteria established for Lake Washington and Puget Sound. Six candidate vessel designs were chosen based on these criteria.
- Eleven water stop terminals for passenger-only system were recommended. They would function as water-stop for the boats, designed for quick passenger boarding and alighting and minimum waiting time. Suggested sites did not appear to have any fatal flaws for water transit use.
- Provision of minimal parking was recommended for water stops and park and ride facilities were rejected due to potential impact on neighboring community.
- A dedicated shuttle bus system was recommended to facilitate quick and convenient transfers between water and land routes. This would connect the water stops with areas of significant passenger origin, key destinations and park-and-ride facilities. In addition “corporate” shuttles connecting water stops to key employment locations were also recommended to make the water transit as a competitive alternative to auto travel.
- Capital costs for both Lake Washington and Puget Sound services are summarized in the report and include cost to build and commission vessels, terminals, maintenance facilities and dedicated shuttles.
- Operating costs for both Lake Washington and Puget Sound services are summarized in the report and include provisions for maintenance of land-side facilities, in addition to that of vessels and some security services.
- Costs, both capital and operating, were found reasonable when compared to alternative transportation modes.

Operational Program

- Peak hour service frequency for Lake Washington would range between departures every 12 to 30 minutes and between 20 to 60 minutes during off-peak hours.
- Peak hour service frequency for Puget Sound would be departures every 30 minutes and every 60 minutes during off-peak hours.

Financial Structure

- Two appropriate means of financing were identified: Urban Mass Transit Administration (UMTA) and Maritime Administration.

Other Specific Findings

- N/A

6. POTENTIAL MARKET FIGURES FOR A PASSENGER FERRY ON LAKE WASHINGTON

Authors/Participants Association of Billingsley, Momma, Roman and Wilson

Date April 6, 1990

Objectives, Purpose and Scope

This study was undertaken as a class project in market research by a team of students at the University of Washington. The purpose of this study was to validate the results of a previous report, A Concept of Water Transit (November 1989), prepared for the Seattle Port Authority. A Concept of Water Transit is a water transit feasibility study that addresses the potential for a passenger-only ferry service to operate on Lake Washington and to provide expanded service on Puget Sound.

The Kirkland-Leschi route across Lake Washington, which has the highest demand in terms of both commuter market share and volume of daily passengers, was chosen to test the validity of the water transit study's market share estimates.

Major Findings or Recommendations

The study found that those who live closer to the ferry system and those who drive alone to work are more receptive to using the ferry as a means to commute, as travel time requirements and convenience are major factors in determining a commuting method. Those who are currently commuting by bus or car pool are most sensitive to the fare level, while those who drive alone into the city are least affected by price.

Governance

- N/A

Capital Assets

- N/A

Operational Program

- N/A

Financial Structure

- It was found that a relationship exists between current commute cost and expected ferry cost. It was found that a large majority of the commuters (74%) expect the ferry system to cost less than their current commute. This reflected an expectation of monetary saving as an incentive to switch to the ferry system.

Other Specific Findings

- Statistical tests were used to verify the validity of the results of the ridership market share estimate. Required data was obtained through a mail survey sent to a random sample of service area residents. The results of the hypothesis testing showed that the ridership estimates for the Kirkland-Leschi route were valid.

Some of the common characteristics found among the potential ferry users are as follows:

- Proximity of user's home to ferry service is important.
- Travel time and convenience are important considerations in the selection of commuting method.
- Cost is not heavily weighed as a selection criterion for commuting method.
- A relationship exists between a person's current method of commuting and the likelihood of using the ferry service. Analysis results of the survey data indicate that the most likely users of the ferry are those who drive alone.

The most desirable aspects of the proposed ferry are the ability to avoid traffic congestion and the opportunity to be on the water.
The most undesirable features were cost, inconvenience, long travel times, and hassles associated with numerous transfers between van and ferry.

7. WATER TRANSIT – TRANSIT FEEDER SERVICE SKETCH PLAN MEMO

Authors/Participants Jim Arrowsmith, Transit Planner, Municipality of Metropolitan Seattle

Date July 20, 1990

Objectives, Purpose and Scope

Discussions with Port of Seattle indicated a shift in interest to a scaled-back water transit project. Two services were under consideration as a result: 1) Tacoma to downtown Seattle (Pier 66), with one stop at Des Moines; and 2) Kirkland (Moss Bay) to Seattle (either Leschi or south Lake Union) – this could include an optional mid-route stop at the University District (Boat Street), if the south Lake Union routing were selected.

Major Findings or Recommendations

Successful cross-lake ferry service would depend on punctual reliable land transit service; however, traffic congestion in the vicinity of the proposed ports, as well as between neighborhoods and these ports, is a severe constraint. Without significant HOV improvements, transit scheduling would be difficult because of delays caused by congestions, or these delays would result in frequently missed connections.

Neither Kirkland nor Renton has sufficient existing nearby park-and-ride spaces.

Governance

- N/A

Capital Assets

- Each route would feature 40-passenger boats, with weekday-only peak direction commuter service.

Operational Program

- The Tacoma route would operate a 45-minute frequency with two-hour peak periods, which would mean three trips per peak.
- The Kirkland water route would operate a 30-minute frequency with two and one-half hour peak periods, or five trips per peak.

Financial Structure

- N/A

Other Specific Findings

- N/A

8. REGIONAL FERRY PLAN SAN FRANCISCO BAY AREA – FINAL REPORT

Authors/Participants Metropolitan Transportation Commission

Date 1992

Objectives, Purpose and Scope

This document provides a review of existing ferry services operating in San Francisco Bay and also considers the feasibility of new ferry routes and the institutional arrangements needed to implement them.

The existing services that were reviewed include:

- Sausalito-San Francisco
- Larkspur-San Francisco
- Tiburon-San Francisco
- Oakland/Alameda-San Francisco
- Vallejo-San Francisco

Major Findings or Recommendations

The plan proposed several goals for ferries in the Bay Area including:

- Enhance regional mobility and support planning policies.
- Create a transit option that is an attractive alternative to the automobile.
- Offer a transit operation that can be initiated in a timely, environmentally benign and cost effective manner.
- Provide transit services that operate efficiently and reduce the need for high cost alternative transportation investments.
- Provide ferry services that are reliable, safe, and fully accessible.
- Develop terminals that are consistent with local and regional plans.

The plan created a comprehensive set of criteria to evaluate existing services and potential new services.

The second phase of the study began by evaluating 17 potential new routes in the Bay Area. Each route was evaluated against multiple criteria including potential ridership, financial performance, environmental impacts and capital and operating costs and requirements. The result of the evaluation was that four of the seventeen routes were recommended for further study. Three additional routes were identified as potential future candidates for further investigation.

Governance

- The report also reviewed the institutional arrangements for planning and operation of ferry services in the Bay Area. The report recommended a two pronged approach to improve on the existing arrangements. First, existing publicly operated or funded ferry services should be merged with the appropriate landside transit operators/districts. Secondly, a consortium of public and private ferry operators and key stakeholders should be established to discuss policy, plans and operational strategies to advance ferries in the Bay Area.
- The report suggested that ultimately a regional ferry agency might be warranted and readily feasible. In the meantime it was proposed that the ferry consortium report to the Metropolitan Transportation Commission on ferry issues.

Capital Assets

- N/A

Operational Program

- The review concluded that existing ferry travel times are not competitive with the automobile, the current frequency of ferry services are not adequate and existing ferry terminal facilities do not offer basic amenities or adequate accessibility.
- The recommended plan for ferry service and landside transit integration included a strategy to resolve current deficiencies and to support future ridership projections. The plan was based on the current ferry operators and was designed to be financially feasible. Its objective was to maximize ridership in relation to funding investment and was based on an incremental approach to service improvements. It also recognized the need to coordinate ferry services with landside transit.

Financial Structure

- N/A

Other Specific Findings

- N/A

9. IMPLEMENTING VISION 2020: 1995 UPDATE OF THE METROPOLITAN TRANSPORTATION PLAN – MARINE/FERRIES COMPONENT TECHNICAL PAPER MTP-7

Authors/Participants Puget Sound Regional Council in cooperation with WSDOT Marine Division

Date May 1994

Objectives, Purpose and Scope

The paper provides background information for the MTP.

Major Findings or Recommendations

The paper summarized the services offered by WSF, Pierce County and the Port Orchard ferry and listed some of the ongoing developments at the time: recent construction of vehicle holding areas and passenger facilities. The main issue raised was meeting demand.

Governance

- N/A

Capital Assets

- Two 250-capacity vessels were providing passenger-only service at the time, and new passenger-only facilities at Colman Dock (Seattle) were to be under contract soon.

Operational Program

- Seattle-Vashon service was operating at the time and two other recommended routes, to Southworth and Kingston, were planned for service as part of a larger passenger-only program recommended by the Transportation Commission.

Financial Structure

- N/A

Other Specific Findings

- N/A

10. KIRKLAND FERRY SERVICE (NEWS ARTICLES)

Authors/Participants News articles (Source: Journal American)

Date 1995-1996, various

Objectives, Purpose and Scope

Describes developments re: an initiative in 1995 to run small catamarans to various points in Kirkland and Seattle, focusing on a downtown Kirkland-UW route.

Major Findings or Recommendations

This was in conjunction with development of the Kirkland Commons area next to Lake Washington. The articles suggested a private tour boat operator might be interested, but at the time it appeared subsidies would be required to support a commuter service. In April 1996, the Regional Transit Authority rejected adopting it as a component of the regional transportation plan (that was passed by voters in November 1996), because of travel times, costs to run buses to the terminals, park and ride impacts at the terminal sites, and relatively low daily ridership.

Governance

- N/A

Capital Assets

- N/A

Operational Program

- N/A

Financial Structure

- N/A

Other Specific Findings

- N/A

11. THE ELLIOTT BAY WATER TAXI DOCKING STUDY, FINAL REPORT

Authors/Participants City of Seattle

Date 1997

Objectives, Purpose and Scope

The docking study contains preferred alternative terminal sites for West Seattle and downtown Seattle for the Elliott Bay Water Taxi service.

Major Findings or Recommendations

The study emphasizes several key points including:

- Importance of having a vessel capable of handling weather and wave conditions.
- Importance of choosing a vessel that has the appropriate balance of speed and capacity.
- The need to serve passengers from boarding locations which are convenient to their destinations and are provided with shelter, lighting and other amenities.
- The need for docks and ramps that easily accessed by passengers with all levels of ability and circumstance including bicycles, strollers, wheelchairs, walkers and small children.

Governance

- N/A

Capital Assets

- N/A

Operational Program

- N/A

Financial Structure

- N/A

Other Specific Findings

- N/A

12. ELLIOTT BAY WATER TAXI 1998 SERVICE FINAL REPORT

Authors/Participants City of Seattle, Department of Neighborhoods

Date 1998

Objectives, Purpose and Scope

This report documents the first two years of operation of the seasonal service provided by the Elliott Bay Water Taxi in 1997 and 1998. The original objectives of the Water Taxi program were to determine the feasibility of a permanent marine link for commuters, and others, and to create a transportation option integrated with the existing transportation system.

Major Findings or Recommendations

The report concluded that ridership in 1998 (50,000) passengers was not high enough to offset service costs. The report suggested that further work would be required to determine the true market potential. The need for a permanent dock was addressed in a separate study. Outstanding issues were identified that needed to be resolved before making the service permanent, including:

- Union representation
- Tribal fishing
- Nature and scope of partnerships between public and private entities
- Coordination with WSF
- Environmental review and analysis of any new docks facilities
- Funding for both capital and operation costs

Governance

- N/A

Capital Assets

- N/A

Operational Program

- The report found that to be successful the Water Taxi needed fast, convenient and well coordinated ground transportation links at both ends, but that unfortunately such connections were not present. This meant the service was at a disadvantage with other forms of transport.

Financial Structure

- The lack of a unified fare structure may have discouraged ridership. The $3 one way fare was considered too high by users. Ridership increased when passes were accepted and the fare lowered.

Other Specific Findings

- N/A

13. DEPARTMENT OF TRANSPORTATION FERRY SYSTEM PERFORMANCE AUDIT, REPORT 1998-1996

Authors/Participants State of Washington Joint Legislative Audit and Review Committee

Date 1998

Objectives, Purpose and Scope

In 1997 the Joint Legislative Audit and Review Committee was instructed by the Washington State Legislature to conduct performance reviews of various functions of WSDOT, including WSF. Booz Allen was contracted to prepare the audit of WSF.

The purpose of the WSF audit was to evaluate the historical and current performance of WSF and identify activities and programs that should be strengthened, abandoned, redirected or replaced.

Major Findings or Recommendations

The key findings and conclusions of the study were:

- Passenger and vehicle activity at WSF has increased at a faster rate than operating costs over the past six years.
- WSF is comparable to other North American ferry systems in terms of productivity and cost factors.
- The ferries of the WSF fleet are among the oldest in North America and require a more rigorous and formal maintenance program than a more modern fleet.
- WSF operates the system with safety as a highest priority with the overall fleet performing reliably and with customers viewing the system favorably.

Governance

- Public Private partnerships may offer opportunities to reduce operating costs, but require proactive planning. If such opportunities are to be pursued, the legislature should consider amending current legislation to eliminate barriers to private ferry operations in Puget Sound.

Capital Assets

- Current fleet and terminal capacity is not capable of meeting vehicle demand over the next 20 years. However the fleet does maintain adequate passenger capacity to support its 20 year forecast on existing routes.

Operational Program

- Organization structure and culture have impeded the WSF's ability to retain management, conduct needed training, and manage labor and collective bargaining effectively.

Financial Structure

- N/A

Other Specific Findings

- N/A

14. SUPPLEMENTAL REPORT: REGIONAL FERRY SYSTEM – 1998 PROGRESS REPORT (1995 METROPOLITAN TRANSPORTATION PLAN)

Authors/Participants Puget Sound Regional Council

Date June 1998

Objectives, Purpose and Scope

Refine the Metropolitan Transportation Plan by noting changes over the 1995-98 period, including ridership data and forecasts, facilities and vessels, and planning efforts by the operating agencies.

Major Findings or Recommendations

Changes at WSF from 1995-98 focused on terminal improvements, new vessel construction to meet immediate demand, and the draft 20-year ferry system plan. Pierce County operates a ferry service based in Steilacoom, which has some traffic issues, and there is a private operation between Port Orchard and Bremerton.

Governance

- N/A

Capital Assets

- The report noted the auto ferries that were coming into service in 1997-99 to provide additional capacity on the Seattle-Bainbridge and Edmonds-Kingston routes.
- There has been recommendation of passenger-only vessels to serve Seattle-Kingston and Seattle-Southworth but these were unfunded.
- Long-range plan proposed increased frequencies and capacities on most routes, including passenger-only ferries, and new park and ride capacity to serve an increase in walk-on passengers.

Operational Program

- Long-range plan for South Sound corridor indicated Seattle-Vashon passenger-only with 350 passenger capacity boat, and direct Southworth-Seattle auto ferry service to relieve congestion at Fauntleroy terminal.

Financial Structure

- It was noted that voter approval in 1998 of a new funding initiative was needed before some initiatives could proceed.

Other Specific Findings

- N/A

15. WSF 1999 TRAVEL SURVEY – ANALYSIS AND RESULTS REPORT

Authors/Participants Washington State Ferries

Date 2000

Objectives, Purpose and Scope

This project involved the surveying of passengers onboard Washington state ferries in May 1999. More than 50,000 surveys were handed out, and about 15,000 useable forms were returned. The survey was conducted onboard each of the routes in the system and the questions covered travel behavior, (e.g., trip purpose, frequency of travel, boarding method, type of ticket), potential improvements and demographics.

Major Findings or Recommendations

The specific findings for the Seattle-Vashon Island route included:

- 86% of riders in PM peak hour were commuters, with almost 70% making ten or more trips in the last ten days.
- The connecting service to Southworth was only used by commuters who were required to transfer from the Vashon route in order to complete their journey.
- The most common pattern for Vashon passengers was drive to the terminal and park on Vashon, and then to walk from the terminal to their destination in Seattle.
- At Vashon 46% arrived/left by car & 37% rode a bus or shuttle.
- At Seattle 64% walked, 15% use a car and 21% took transit.
- About 10% of passengers on the route used parking on both sides indicating that they had a 2nd car available.
- The most popular potential ferry improvement among peak-period Vashon residents was to have bus service direct to the ferry to within two blocks of home – selected by 17% of respondents.
- Among off-peak users, improved bus connections were desired by 32% of respondents.
- Downtown Seattle was the destination for 76% of trips originating on Vashon Island, while the U District was the destination for 9% of users.

Governance

- N/A

Capital Assets

- N/A

Operational Program

- N/A

Financial Structure

- N/A

Other Specific Findings

- N/A

16. TRANS-LAKE WASHINGTON FERRY FEASIBILITY STUDY – FINAL REPORT

Authors/Participants Sound Transit (prepared by Parametrix, Inc.)

Date June 2000

Objectives, Purpose and Scope

Examine the feasibility of a passenger-only ferry route between Kirkland and the University of Washington (UW) with a possible extension to South Lake Union. The study included evaluation of terminal facilities, vessel technology, transit connections, parking availability and impacts, ridership and revenue forecasts, and provided a recommended implementation plan.

Major Findings or Recommendations

The optimal service schedule for the proposed demonstration project would be weekday peak periods (6-10 AM and 3-7 PM) and summer weekends and weekends with special events (approximately 24 weekends per year). A 149-passenger vessel was recommended over a 49-passenger vessel for its ability to accommodate ridership growth and its higher potential resale value.

Governance

- The studied route was a proposed Sound Transit demonstration project.

Capital Assets

- Catamaran vessels with a passenger capacity between 49 and 149 passengers were determined to be the most appropriate for the route. Strengths of this vessel type include: excellent maneuverability, stable platform, low draft requirements, high-speed capabilities, and reasonable economy of operation. Vessel capital costs were estimated to be between $500,000 and $1 million for a 49-passenger vessel and between $1.5 and $2.8 million for a 149-passenger vessel.
- Preferred alternative terminal sites were identified at Marina Park in Kirkland, Sakuma Viewpoint Park at the UW, and Chandler's Cove at South Lake Union. These three existing docks were rated to be in good condition. A 40' by 20' float, loading platform, and transition gangway were identified as necessary components for a terminal utilizing a 49-passenger vessel, with a float up to 80' by 20' required for a 149-passenger ferry. Estimated terminal improvement costs ranged from $19,000 to $585,000.

Operational Program

- Travel time between Kirkland and the UW was estimated at 32.5 minutes, with the extended route from Kirkland to South Lake Union estimated to take 60 minutes. These estimates include passenger loading and unloading.
- The analysis assumed 17 hours of service in each direction.
- Operating costs were estimated to be approximately $325 per hour for a 49-passenger vessel and $400 per hour for a 149-passenger vessel.

Financial Structure

- Proposed funding sources included: excess tax revenue from East King County; federal Title XI guarantees; and federal TEA-21 grants including the Ferry Boat Discretionary Grant Program, the Congestion Mitigation and Air Quality Program, and the Federal Transit Administration's Capital Investment Grants.

Other Specific Findings

- Estimated daily boardings at full route maturation were 540 between Kirkland and UW and 135 between UW and South Lake Union. The addition of a direct shuttle service and park and ride facilities in Kirkland was predicted to increase total daily boardings between Kirkland and UW to 705.
- Under the most cost-effective operating cost and revenue scenario the estimated farebox recovery ratio would be between 9% and 15%. The opening of the Sound Transit light rail station at the UW was estimated to result in a 47% increase in ferry ridership, increasing the farebox recovery ratio to approximately 22%.

17. A MARINE INDUSTRY WHITE PAPER REGARDING THE TRANS-LAKE WASHINGTON FERRY FEASIBILITY STUDY

Authors/Participants John J. McMullen Associates, Inc.

Date July 12, 2000

Objectives, Purpose and Scope

Review and critique the *Trans-Lake Washington Ferry Study* that was undertaken to establish the feasibility of operating passenger only service on Lake Washington to address the region's peak commute congestion on the SR 520 and I-90 bridges.

Major Findings or Recommendations

The white paper found that the original report overestimated costs and underestimate ridership.

JJMA estimated farebox recovery ratios would range from 4% to 44% for 49-passenger vessels and from 3% to 33% for 149-passenger vessels. The range of farebox recovery ratios originally estimated was 9% to 15%.

JJMA suggested that ferry service favorably compares with farebox recovery ratios of local public transit systems such as Everett Transit (13%), Pierce Transit (15%), Community Transit Bus Services (20%), and King County Metro (25%). JJMA also stated that the historical farebox recovery ratios for the two Washington State Ferries passenger-only ferry routes ranged from 14% to 25% from 1991 to 1999.

Governance

- N/A

Capital Assets

- The white paper proposed a low wake/wash catamaran as the model vessel to be used in cost analysis.

Operational Program

- The white paper suggested that speeds of less than 25 knots would be most appropriate. Higher speeds greatly increase vessel capital and operations costs, and tend to increase vessel wake and fuel consumption.
- The white paper stated that turnaround time for a 49- to 149-passenger vessel should be no more than five minutes.

The white paper estimated the following operating costs for a low wake/wash catamaran:

- Fuel – $29 to $39 per hour (based on fuel cost of $1.30/gal and fuel consumption of 60 gal/hr at 22 knots and 20 gal/hr at 7 knots).
- Crew – non-union wages including taxes and benefits would be $25/hr for a skipper and $15/hr for a deckhand (estimated two crew members for a 49-passenger vessel and three for a 149-passenger vessel).
- Marine insurance – $4/hr for 149-passenger vessel and $1/hr for 49-passenger vessel.
- Biannual drydocking – approximately $10/hr for a 149-passenger vessel and $7/hr for a 49-passenger vessel.
- Engine maintenance – approximately $21/hr for a 149-passenger vessel and $17/hr for a 49-passenger vessel (for new vessels under warranty).
- Maintenance labor – approximately one and a half persons per 149-passenger vessel (total cost $70,000/yr) and one person per 49-passenger vessel (total cost

$50,000/yr).

In all, the annual operating costs on a per passenger seat basis reported in the original study were found to be 2.67 times greater than JJMA's calculations.

Financial Structure

- N/A

Other Specific Findings

- The white paper suggested that the projected ridership levels in the original study seemed to be grossly low. Given the existing and planned growth and demographic patterns for the area, the projected ridership should be significantly higher.
- It was suggested that the low ridership figures were derived because the original model used was a bus transit model which could not forecast tourist traffic and growth (which is significant in the area), and that the model could not account for ferry ridership generated due to intangibles such as preference of mode, ambience, view, etc. It was suggested that these intangibles should be addressed via a sensitivity analysis. The white paper suggested that people would prefer ferry services over other public transportation modes.

18. WA STATE LEGISLATURE'S JOINT TASK FORCE ON FERRIES – FINAL REPORT

Authors/Participants Joint Task Force on Ferries (WA State Senators, Representatives, Citizens, ferry management and workers)

Date January 15, 2001

Objectives, Purpose and Scope

Review the Washington State Ferry (WSF) system and recommend the future direction of the system, including goals for fare box recovery, options for different levels of service, feasibility of privatization, public-private and state-local partnerships, and establishing short-term and long-term capital needs.

Major Findings or Recommendations

The following were recommended to the Legislature for consideration:

State should continue to provide and maintain the current auto and passenger-only ferry routes. Provide at least the reduced 1999-2001 levels and keep maintenance in-house.

Waiver of I-601 to allow larger tariff increases and raise recovery of operating costs, in particular on passenger-only and longer auto ferry trips.

Fund short-term and long-term capital investment requirements, to catch up on deferred preservation and maintenance and replace aging vessels and terminals as needed.

Continue to adopt operational efficiencies.

Review governance options, including creation of funding districts for passenger-only service.

Governance

- State-local or public-private partnerships may be a viable option if the Legislature wishes to explore expansion of the passenger-only program in the future.
- The task force recommended review of governance options, including creation of funding districts for passenger-only service.
- Statutory Obstacles to other operators: includes Ten Mile Rule (operation within 10-mile radius of WSF requires a franchise from WSDOT or UTC waiver).

Capital Assets

- Investment priorities for capital are: maintenance, preservation, and improvements. Some existing terminals and vessels are reaching the end of their service life. In 2001, the major costs were preservation of facilities, replacement of auto ferries due for retirement from service, Mukilteo and Anacortes multimodal/preservation projects, and replacement of aging passenger-only vessels.
- Systems are divided into "category 1" (vital systems) e.g., safety related, and "category 2" (all other systems). The condition rating (percentage of vessel and terminal systems operating within life cycle) for WSF systems and structures as of 2001 was 79% for category 1 and 66% for category 2.
- Alternative service providers (public or private) are not able to offer the current level of service as cost effectively as the state, in part because of the need for significant capital investment in vessels and terminal facilities.

Operational Program

- There was evaluation of a Kitsap Transit proposal to operate new passenger-only on two new routes, Southworth-Seattle and Kingston-Seattle, and operate Bremerton-Seattle passenger-only as a contract route. The concept was to use a larger fleet of

smaller boats (capacity of 149 versus the 350 on the two WSF boats) with fewer vessel wake issues (affecting speed) and more flexibility to match demand. The operating costs were estimated to be lower, assuming lower overall wages than agreed to by WSF and a crew of three per passenger-only vessel, subject to Coast Guard approval.

- WSF employees provide maintenance at Eagle Harbor. Maintenance and preservation projects over $50,000 are contracted out per current law. Recommendation was to keep this, because the costs are comparable with private shipyards and knowledge of some vessels is only available from Eagle Harbor staff as the equipment is no longer supported by the original vendor.
- Further reductions in service to reduce operating costs were not recommended as some routes were operating close to "break even" and service cuts would reduce revenues more than costs. On other services, the union requirement for 8-hour shifts meant that costs could either be reduced by cutting sailing frequency (which would have the same labor costs but save marginally on fuel) or by eliminating shifts, which would not result in viable services (operating half a day would strand commuters).

Financial Structure

- November 1999, voters approved Initiative 695 (I-695), which abolished the Motor Vehicle Excise Tax (MVET) and terminated R-49 bond revenue, which between them accounted for 20% of operating and 82% of capital funding. As a result, funding and consequently service was cut for auto and passenger-only ferries.
- Current (2001-3) resources included gas tax, tariffs (fares) and registration fees for operations and gas tax and federal sources for capital.
- Historical tariff revenue goal was to recover 60% of operating costs from fares. The WSF Tariff Policy Committee (TPC) presented policy action items to the task force for consideration. These include an I-601 Waiver to allow significant adjustment of tariffs, implementing a time-based tariff structure (to reflect relative cost of operating different routes) with the ultimate goal of 80% recovery.
- It was recommended to raise the tariffs for passenger-only to double that for passengers on auto ferries given the faster crossing times, lower cost recovery of the program (30% versus 62% for the WSF system), and the range of fares charged by other operators on the West Coast for similar service.

Other Specific Findings

- N/A

19. ELLIOTT BAY WATER TAXI DEMONSTRATION PROJECT FINAL REPORT

Authors/Participants King County Department of Transportation, Metro Transit Department

Date 2002

Objectives, Purpose and Scope

The purpose of this report was to provide an evaluation of a full year demonstration of the Elliott Bay Water Taxi between West Seattle and downtown Seattle. The demonstration was from May 2001 to May 2002, and used Seacrest Park as the terminal in West Seattle.

Summer service was operated by the Water Taxi from 1997 to 2001 and was reliable and popular. This study provided a comparison between summer and winter service in order to assess the viability of permanent year round service.

Major Findings or Recommendations

The report concluded that the Water Taxi demand was very seasonal. The report stated that "the demonstration clearly showed that while the Water Taxi service is competitive with other public transportation modes during the summer months, the off season productivity drops dramatically". During the summer, 54% of riders were using the service for recreational or social purposes, with this portion including a large number of tourists. Thirty eight (38%) of the summer users said that weather was a factor in their decision to use the service.

Governance

- N/A

Capital Assets

- The current facilities in Seacrest Park were deemed to be inappropriate for a permanent ferry service due to impacts of parking and congestion. The cost of developing a new, permanent facility for a seasonal service was identified as a potential problem.
- The vessel being used on the service offered a good balance of capacity and speed but was not suitable in the long-term due to age, size and hull size. The winter season caused excessive wear and tear on the vessel. A new vessel should have a capacity of at least 100, and provide unassisted ADA accessibility.

Operational Program

- N/A

Financial Structure

- N/A

Other Specific Findings

- The service was effective in shifting car users onto transit, with up to 27% of users stating that they formerly drove alone. A permanent Water Taxi would require better transit connections in West Seattle to encourage more commuter use.

20. WASHINGTON STATE FERRIES TWO-YEAR OPERATIONS REPORT 1999-2001

Authors/Participants Washington State Ferries (prepared by consultants)

Date July 2002

Objectives, Purpose and Scope

Provide an overview of the state ferry system to the public, including operations, budgeting and customer service.

Major Findings or Recommendations

The major challenge facing the system in 2002 was to stabilize the funding base and ensure a cost-effective service within the limitations of reduced financial resources.

Governance

- WSF is an operation of the WSDOT and is directed by the Transportation Commission.

Capital Assets

- Assets include vessels and terminals. Vessels include auto-passenger ferries and passenger-only fast ferries (since taken out of service). Terminals include tollbooths, vehicle holding areas, parking, terminal buildings and/or pedestrian waiting areas, overhead loading bridges, and public transit connections. Terminals also include the systems and structures that allow boat loading (and unloading) from the groundside: trestles, bridges, towers, transfer spans, wing walls, and dolphins.
- Vessels typically have a useful life of 60 years for the auto ferries, 25 years for the passenger-only. Major preservation work is needed on the auto ferries after a typical 30-year service life.

Operational Program

- 93% of the 1800 employees belong to one of 13 unions and are covered by one of eight separate collective bargaining agreements. One half of employees work in vessels and the other half are in terminals, the headquarters, or a regional office.
- In response to impact on revenues of I-695, service was reduced on most routes and boats idled. Administrative and support staff was reduced to a greater extent, in order to limit the direct impact on services provided to the public.

Financial Structure

- At the time of the report, the results of the Blue Ribbon Task Force (implement premium pricing for passenger-only, adopt time-based fare equity, and achieve 80% farebox recovery within six years) and the Joint Task Force on Ferries (consistent with the Blue Ribbon, plus maintaining at least bare bones service levels and focusing capital investments on preservation) had been recommended. A direct consequence was an initial 20% fare increase and introduction of $1 each way passenger-only premiums. (Note that fares had not been keeping pace with inflation.)

Other Specific Findings

- N/A

21. KITSAP TRANSIT PASSENGER-ONLY FERRY IMPLEMENTATION PLAN UPDATE

Authors/Participants Kitsap Transit (prepared by Art Anderson Associates)

Date March 3, 2003

Objectives, Purpose and Scope

1. Provide an update and discussion of issues related to proposed passenger-only terminals for Kitsap Transit, including passenger needs and vessel-related docking requirements; 2. Explain passenger ferry planning parameters and cost estimates; and 3. Discuss vessel acquisition strategies.

Major Findings or Recommendations

The report lays out a proposed schedule, assuming voter approval of the system, for passenger-only terminal construction (and expenditures), in Bremerton, Kingston, Seattle and Southworth. It also describes a basic operating plan for three passenger-only services tested to develop potential operating costs, wherein 14 vessels (including spares) with 149-passenger capacity would provide the service. Further, it recommends an acquisition process wherein multiple yards would be awarded contracts with optional extensions, with the options awarded on the basis of vessel performance while in service.

Governance

- Proposed passenger ferry services would be an extension of Kitsap Transit bus and paratransit services.

Capital Assets

- Terminal design issues include passenger travel times and comfort, intermodal connections, passenger loading/unloading (affected by moorage and float location), and environmental concerns near the shore and within the local community.
- Terminal cost components include: float substructure, float superstructure (platform, ramps), transfer spans (load and unload passengers, float to boat), float moorage system, fenders and cleats (maintain position of boat against float) gangway, fixed piers, canopies, lighting, shore utilities (for boats), terminal building (could include waiting area, telephones, information kiosk, concessions, washrooms, and ticket sales – unless done on boat), sidewalks, bicycle storage, roadway paving (including bus drop-off and car drop-off), parking.
- Location of float is recommended to be as close as possible to make service better for passengers, but also needs to be far enough from shore for vessel to maintain minimum clearance at low tide, and also far enough that gangway slope is not too steep for accessibility requirements.
- Kingston facilities are discussed at three levels of expenditure: 1) short-term improvements at Kingston Marina to construct a float; 2) passenger-only facilities at the WSF pier and terminal; and 3) entirely new facilities. Other terminals assume improvements to existing piers, new facilities, or both where service phasing requires it.
- The memo on vessel acquisition strategies recommended adding hydrofoil-assisted catamarans to the list of candidate technologies to be considered. There was also a recommendation that propulsion and control systems be common between vessels (the proposal was to select three boat yards) to ensure commonality and allow crews to be transferable without extra training.

Operational Program

- For safety purposes and to expedite passenger movement, storage of bicycles near the exit was recommended, and separation of bike and walking passengers.
- The service assumptions in the operating costs spreadsheet assume a three-person crew operating 12 one-way crossings per day on the passenger only vessels. The assumed headway was 20 minutes in the morning and afternoon peaks (and peak shoulders) and 40 minutes mid-day and in the early evening.

Financial Structure

- N/A

Other Specific Findings

- General information on vessel procurement steps was provided to permit comparison of contract design and design-build options.

22. FINAL IMPLEMENTATION OPERATIONS PLAN

Authors/Participants San Francisco Bay Area Water Transit Authority (WTA)

Date 2003

Objectives, Purpose and Scope

This document shows how expanded Bay Area water transit that is affordable, reliable, convenient, flexible and clean will get drivers out of their cars and into environmentally responsible, state of the art passenger ferries. The document appears to be geared for the public and decision makers, rather than a technical audience, and makes a strong pitch for support for the plan and ferry service.

Major Findings or Recommendations

The report shows that water transportation can be environmentally responsible and economically affordable with costs per seat comparable to other rail and bus systems in the region. The report notes that six times in the past, water transportation links have been used to replace other links disabled by natural or made disasters. In addition to the existing ferry operations, eight new routes are proposed for implementation and three others are identified for future consideration. The first routes are proposed to be operational in three years, and all should be operational in eight years. Higher costs are initially forecast due to new emissions monitoring protocols, planning and implementing landside connections, and attracting new riders who are not as readily inclined to ride transit.

Governance

- The WTA will be a focused regional agency dedicated to safe, cost-effective and environmentally responsible water transit. It will operate in the public interest and be structured to plan and operate water transit with the flexibility to link the organizational structure to the responsibilities and changing environment.

Capital Assets

- The plan includes Water Transit Oriented Development, new terminals with enhanced amenities and new vessels that are cleaner, faster and more comfortable with accessible designs that promote efficient operations.

Operational Program

- The WTA will develop a disaster response plan to deal with man made and natural disasters to take advantage of the flexibility and capabilities of the ferry fleet.
- The plan takes a number of steps to improve air quality, protect habitat and improve the environment of the Bay Area. Steps will be taken to protect sea life including whales and seals.

Financial Structure

- The first step is to take the plan to the voters as part of a toll increase referendum in 2004. The second step is to ensure that the federal Ferry Boat Discretionary Fund is expanded in the next transportation reauthorization bill and that, like other regions with large ferry systems, the Bay Area obtains a set-aside for its water transit system. The third step requires the WTA to continue to seek new funding sources.
- The plan will cost $396 million in capital over ten years and incur operating costs starting at $3 million but reaching $46 million by year ten. It will be funded by a variety of sources including federal, county, local and private sources. In some areas the ferry system will relieve more congestion per dollar spent than any other mode.

Other Specific Findings

- The plan forecasts that ridership will grow about 12% annually. The study found that six factors influence modal choices including:
  - Need for flexibility
  - Desire to help the environment
  - Need for time savings and reliability
  - Sensitivity to personal travel experience such as personal space and quiet
  - Insensitivity to transport costs
  - Sensitivity to stress

23. WA STATE FERRIES TARIFF REVIEW 2002-2003 SUMMARY REPORT

Authors/Participants Washington State Ferries Tariff Policy Committee (state legislators, members of ferry advisory committees, and representatives from transit, industry and labor organizations.)

Date September 2003

Objectives, Purpose and Scope

Review and advise on revenue and tariff issues, solicit public comment, and make recommendations to the Transportation Commission.

Major Findings or Recommendations

Recommendation was made for a two-year tariff package to the Transportation Commission, with fare adjustments to be made in May 2003 and 2004. This was made in light of a 5+5+5 Business Plan, wherein fares would increase 5%; costs would decrease 5%, and 5% of system revenues will be from retail, marketing and advertising sources.

Governance

- Transportation Commission is responsible for adopting the tariff recommendations.

Capital Assets

- N/A

Operational Program

- WSF discontinued the passenger-only ferry services effective June 2003 following defeat of Referendum 51, which would have provided funds for preservation and construction. WSF also reduced other services during the winter season. Most of the attendees at the February 2003 tariff meeting on Vashon Island were there to ask about the service.

Financial Structure

- The tariff review proposed general fare increases of 5% on the Central Sound routes and fares on other routes determined using the TRE (tariff route equity) relationship. The % discount for frequent user passengers was to be reduced from 25% to 20% from the base fare.
- Future consideration is planned for Transportation Demand Management, reviewing the passenger/vehicle relationship, time-of-day pricing, and peak and valley pricing.
- The 99-01 tariff resulted in: 20% fare increase; tariff route equity with adjustments for travel sheds (interchangeable routes have same fare); phasing in of TRE for routes where there was greatest overall discrepancy; premium fare surcharges (each way) for POF; discontinue refunds of unused portions of ticket books.
- The 01-02 tariff review resulted in: 12.5% increase, decrease in the passenger coupon (ticket book) discount from 30% to 25%; revision of passenger pass pricing (monthly price = 16 round trips using discount books, was 21 round trips but based on higher ticket discount); San Juans day-of-week pricing; reduction of commercial frequent use discount.

Other Specific Findings

- N/A

24. WATERBORNE TRANSPORTATION SERVICES SUMMARY REPORT

Authors/Participants Pierce County Public Works & Utilities Transportation Services (Prepared by: Association of IBI Group, Elliott Bay Design Group and Jacob Civil)

Date October 2003

Objectives, Purpose and Scope

Pierce County Public Works & Utilities – Transportation Services provides ferry service between the Town of Steilacoom, Anderson Island and Ketron Island. The Study had four objectives:

- Assess impacts on ferry service through the year 2025 due to increase in population.
- Identify changes to service to meet future demand.
- Identify opportunities to enhance customer service.
- Achieve 80% recovery of ferry system costs from fares.

Major Findings or Recommendations

- N/A

Governance

- N/A

Capital Assets

- Recommendation was made to replace the M/V Steilacoom vessel with a new 54-car vessel. This new vessel would alternate with the M/V Christine Anderson vessel and provide constant level of capacity.
- To increase the system reliability changes to the M/V Christine Anderson's existing pneumatic propulsion control system were recommended. Estimated cost for the new electronic control system is $115,000.

Operational Program

Following near-term service changes were identified to add capacity during weekday morning and evening peak periods:

- Replacement of existing direct Ketron Island runs with new triangle runs between Steilacoom, Anderson Island and Ketron Island.
- Addition of 7:30 PM weekday Steilacoom-Anderson Island sailing.
- Implementation of overlength (over 40') vehicle restrictions during peak periods to provide additional auto capacity.

Financial Structure

- A recommendation is made to move towards recovery of 80% annual ferry system costs from fares. When the report was prepared only 65% annual ferry system costs were recovered from fares.
- A future fare pricing model was developed. The model suggested fare changes on a regular two year cycle and included pricing passenger fares in multiples of $0.10 and vehicle fares in multiples of $0.25.

Other Specific Findings

- The impacts of any changes in Ketron Island population on ferry service would be negligible.
- Increasing proportions of working families on Anderson Island has an impact on ferry traffic during morning and evening peak periods.

25. VANCOUVER HARBOUR PASSENGER MARINE STUDY

Authors/Participants TransLink

Date 2004

Objectives, Purpose and Scope

The purpose of the study was to review the technical and financial feasibility of developing new passenger ferry services within Vancouver Harbour using vessels of 50 to 100 passengers. The study did a preliminary screening of more than 20 terminals and 20 routes, and then narrowed detail consideration to 4 routes and 9 terminals.

Major Findings or Recommendations

Ultimately the study recommended one route for a pilot project, but found that ferries only made technical and financial sense in very limited applications. Specifically the ferry service was found to have potential as a supplement to an existing car ferry serving Bowen Island and on a route between West Vancouver and the University of British Columbia (UBC). The financial success of these two routes was largely due to being able to count savings from reductions in bus service, and the ridership was generated due to the significant time savings. However, in the end the route to UBC was dropped due to the inability of the service to actually generate revenue as a result of the U-Pass.

Governance

- N/A

Capital Assets

- N/A

Operational Program

- The study also examined six alternative organization structures and found the two most highly rated options to be TransLink ownership of the vessels with contracted operations and maintenance; or a public private partnership. However, the study noted that developing a viable public private partnership could be difficult.

Financial Structure

- N/A

Other Specific Findings

- The study found that the operating costs for a 100-passenger ferry operating at 30 knots was about four times as expensive as four buses. However when standing room on buses is considered, the buses were found to have about 80% more capacity. Ferries also have higher energy consumption per passenger mile and potentially results in more emissions. The study concluded that for ferries to be viable in Vancouver they must offer critical travel time, reliability or distance savings or provide substantial capacity that provides an alternative to expensive road or bridge building.

26. PIER 1 AND 2 REPORT

Authors/Participants Cascade Land Conservancy

Date 2004

Objectives, Purpose and Scope

This document provides the background and history of efforts to develop a long-term land use solution for Piers 1 and 2 in West Seattle. The extensive appendix provides a summary and timeline of previous work and negotiations pertaining to the project.

The objective of the Cascade Land Conservancy's (CLC) role in the project was to evaluate various options for Piers 1 and 2 with the goal of maximizing public access and open space on the properties that lie at the juncture of industrial, commercial, residential and recreational land uses. Any redevelopment of the site could provide a permanent facility for the Elliott Bay Water Taxi or other ferry services to/from West Seattle.

Major Findings or Recommendations

The CLC recommends that the sites be appraised to determine their fair market value as a prelude to acquisition of the sites or negotiation of maximum public access in any redevelopment project. Negotiations should be held to determine if the land owners are interested in industrial development or mixed use redevelopment and that funding could be pursued to fund open space acquisition and habitat conversation and restoration. It was also recommended that the neighborhood and environmental community approach the property owners to request an opportunity to jointly develop the site to maximize open space.

Governance

- The three landowners of Pier 1 do not have a uniform vision of the future of the site. Pier 2 is owned by the Port of Seattle and is available for lease under the current industrial zoning classification. Piers 1 and 2 could be redeveloped together or jointly.

Capital Assets

- N/A

Operational Program

- N/A

Financial Structure

- N/A

Other Specific Findings

- N/A

27. RETURN OF THE MOSQUITO FLEET? WORKBOOK FOR THE LAKE UNION / LAKE WASHINGTON WATER TRANSIT FORUM

Authors/Participants Puget Sound Passenger Ferry Coalition

Date 2004

Objectives, Purpose and Scope

This workbook is a compilation of presentations given at the Puget Sound Passenger Ferry Coalition Water Transit Forum in Seattle in 2004.

The topics covered include:

- A review of potential Lake Washington/Lake Union routes
- The development of an intermodal terminal in Montlake anchored by a ferry terminal serving routes on Lake Washington and Lake Union
- A review of ferry developments in Vancouver (BC), Victoria (BC) and San Francisco (CA)
- A review of the Elliott Bay Water Taxi

Major Findings or Recommendations

The Workbook includes a copy of the Background Paper on Waterborne Transit and Proposed Strategy S-14, presented to the Regional Transit Committee in June 2004.

The Workbook included a report from the North Lake Union Stakeholder Working Group. This Group was convened by the King County Dept of Transportation to report on long-term use or disposition of County lands in North Lake Union. The Group felt that the Stone Way Pier should be retained for future use in facilitating waterborne transportation.

A synopsis of the Lake Washington Ferry feasibility study for Sound Transit prepared by Parametrix Inc. was also included. The study examined the feasibility of a route between Kirkland and UW, with a possible extension to South Lake Union. The study found that farebox recovery for the proposed service would range from 9 to 15%.

The Workbook includes a paper sponsored by the Passenger Vessel Association that provides a critique of the Parametrix report. In particular the Association believes that ridership is understated and operating expenses overstated in the Parametrix report. The Association recommends a public-private partnership to improve the financial viability of the service without giving details on how it might function.

The workbook includes a 1990 survey of passenger only ferries that might be used for service on Lake Washington. The survey details capacities, performance and operating cost for a number of vessels operating in other cities.

The Workbook concludes with a summary report on the success for the UW U-Pass program.

Governance

- N/A

Capital Assets

- N/A

Operational Program

- N/A

Financial Structure

- N/A

Other Specific Findings

- N/A

28. APPENDIX B – SUMMARY AND ANALYSIS OF MAJOR WATER TRANSIT SYSTEMS

Authors/Participants Bay Area Council Bay Area Water Transit Initiative Task Force

Date February 2004

Objectives, Purpose and Scope

A summary description of major water transit systems in the world (Sydney, Hong Kong, Seattle, and Vancouver BC) that sets forth the common characteristics derived from these successful systems. Undertaken to provide the foundation for the Vision and the Conceptual Design of the proposed new Bay Area high speed water transit system.

Major Findings or Recommendations

The report identified ten "success factors" common to world-class water transit systems relating to: 1) geographic coverage; 2) frequency of service; 3) travel time; 4) reliability; 5) quality of service; 6) efficiency of landside facilities; 7) cost and fares; 8) intermodal interface; 9) safety; and 10) public information and education. Relevant lessons to Seattle are summarized below:

Governance

- N/A

Capital Assets

- To ensure rapid loading and unloading, Hong Kong and Vancouver both use end-loading ferries which have the highest disembarkation rates, well over 150 persons per minute.
- Sydney, Hong Kong, Seattle and Vancouver all have automated terminals to facilitate rapid movement.
- To minimize time spent on the water, Sydney and Seattle have introduced smaller capacity, high-speed vessels (35 to 40 knots) on express routes.

Operational Program

- Route-by-route planning efforts must be replaced with a new effort to build a comprehensive network of routes, allowing multi-destination travel by water throughout the region.
- Flexibility in departure time is one of the most important factors in travel choice. For water transit services to compete with driving, frequent departures are required. During peak demand time, successful systems operate as frequently as 15-minute and 10-minute intervals.
- Travel times also need to be competitive with other modes in order to attract ridership. Consistent "guaranteed" on-time service and available seating are essential to sustaining ridership levels.
- Door-to-door travel time is the operative factor in the decision to use. Successful systems minimize travel time by providing direct pedestrian access to passenger destinations. Short walking distance to downtown business districts or convenient connections to ground services are major determinants of usage.
- Connectivity of surface transportation and pedestrian traffic to the water transit system is a critical factor. There must be seamless transfer between modes and should be facilitated by single-fare transactions. Schedules between modes must be coordinated.

- Costs to the passenger must be competitive with perceived costs and convenience of vehicles.
- Comprehensive dissemination of information pertaining to schedules, comfort, convenience, safety, and system connections is intrinsic to the success.

Financial Structure

- Washington State Ferries operating and maintenance expenses are financed through the Marine Operating Account. This account is funded by WSF fares and other WSF revenues, as well as the Puget Sound Ferry Operating Account. The Passenger Ferry Account was created by the State Legislature in 1995 for funding projects that benefit Passenger-Only Ferry (POF) service. It is funded through the special motor vehicle excise tax that municipalities may impose for public transportation systems. In counties with over 175,000 in population that do not have an interstate highway within their borders, a portion (4.5%) of that special tax collected by municipalities is deposited to the Passenger Ferry Account.

Other Specific Findings

- WSF, the City of Bremerton, Kitsap Transit, Port of Bremerton, and Kitsap County have teamed up to support a major downtown redevelopment on the Bremerton waterfront called Sinclair Landing. The project will include a mix of land uses including waterfront condominiums, a grocery store, office buildings, restaurants, cinemas, a hotel, a conference facility, retail space and a new Bremerton Multimodal Transportation Center (to focus on “seamless” transportation between modes). Project was to begin construction in 1999.

29. STRANDED AT THE DOCK? INTEGRATING PASSENGER-ONLY FERRY SERVICE INTO THE REGIONAL TRANSPORTATION NETWORK

Authors/Participants Schor, Jessyn and Longley, Sara (WashPIRG Foundation)

Date November 2004

Objectives, Purpose and Scope

The document reviews passenger-only ferry service history in Puget Sound, including Washington State Ferries and private operators, and suggests several strategies for increasing the number of non-auto passengers using the various ferry routes, focusing on intermodal connections at ferry terminals.

Note: WashPIRG is a non-profit public advocacy and research organization.

Major Findings or Recommendations

This paper provides background on the operating revenue shortfalls experienced by WSF after Initiative 695, which resulted in service cuts, fare increases (with the goal of recovering 80% of costs from fares), and the eventual cancellation of Bremerton-Seattle passenger-only ferry service. With support from Kitsap Transit, two private operators have recently began providing passenger-only service from Bremerton and Kingston to Seattle, at higher fares than WSF used to charge. On the Kitsap side, the transit system plans to coordinate with ferry departures to alleviate pressures from ferry traffic on the terminal areas. Service on the Seattle side is more limited but there may be access improvements as a result of Colman Dock redevelopment and Alaskan Way viaduct replacement.

The paper advocates increased transit service, fare integration, transit-oriented development, improved pedestrian facilities and multimodal funding by the state and region.

Governance

- In 2003, the State Legislature lifted an old rule restricting operators from having routes within a ten-mile radius. This opened up potential ferry service markets to other operators, subject to obtaining UTC certificates.

Capital Assets

- The private operators on the Bremerton-Seattle and Kingston-Seattle passenger-only routes own their vessels and use a private docking facility (Pier 55) in Seattle. (The Kingston operator purchased its vessel from WSF.)
- WSDOT is funding continuing research into faster passenger-only vessels in Bremerton. If this is successful, Kitsap Transit may have new vessels constructed for the cross-sound service, and these would remain public property.

Operational Program

- WSF operates a passenger-only ferry from Vashon to Seattle.
- The Kitsap Ferry Company, a consortium of boat operators, provides service in between the auto ferry departures from Bremerton to Seattle. This offers time savings over the auto ferries, and new sailing times to interested passengers.
- Kitsap Ferry Company offers reserved seating and premium “business class” service (for a fee), including coffee and newspapers.
- Aqua Express, also a consortium of boat and tour operators, now operates a direct passenger-only route from Kingston to Seattle. This allows a big time and cost savings to passengers over crossing to Edmonds and taking an express bus or driving to Seattle.

Financial Structure

- Fares charged by the private operators are higher than WSF, reflecting the need to run at a profit (over 100% of operating costs) instead of the 80% recovery required by WSF.
- Public funding related to the new routes from Kitsap is initially restricted to supplying extra bus transit service to the ferry terminals, but will expand to include vessel research and possibly procuring new vessels.

Other Specific Findings

- Bremerton is expected to undergo a major transformation, with $500 in redevelopment to take place along its waterfront, including expansion of park and ride facilities.

30. WASHINGTON STATE FERRIES, VISION AND TEN–YEAR PASSENGER STRATEGY FOR WASHINGTON'S MULTIMODAL FERRY TRANSPORTATION SYSTEM

Authors/Participants Washington State Department of Transportation (Prepared by consultants: Berk & Associates)

Date January 2005

Objectives, Purpose and Scope

The purpose of this report was to assess Passenger-Only Ferry (POF) options across central Puget Sound using Washington State Ferries (WSF), alternative operators or a combination of both.

Major Findings or Recommendations

Assessment for various routes connecting Seattle, Clinton, Kingston, Vashon and Southworth was done. Recommendations specific to three market segments/routes were made.

- Clinton market should continue to be served through Clinton-Mukilteo passenger-vehicle route.
- For Seattle-Kingston POF service existing service plan and operations of Kitsap and its private operators should be respected without any additional investments from state resources.
- POF triangle service was recommended between Seattle, Vashon and Southworth. It was found that the POF triangle service will provide the most cost-effective WSF operating solution for the South Sound (Seattle-Vashon-Southworth) over the next ten years.

Governance

- WSF should operate the POF triangle service. Private operators should not add service here as they would weaken an existing WSF route and divide Federal money distribution between two or more systems.

Capital Assets

- Implementation of POF triangle service requires approximately $1.2 million in vessel start-up costs and $ 1.8 million in terminal improvements.

Operational Program

- Implementation of POF triangle service requires flexibility in operating patterns and spilt shifts to manage labor costs.
- Agreement between WSF and unions is necessary to revise labor contracts that allow for split shifts.

Financial Structure

- Net financial impact of POF triangle service on WSF finances will be positive. The financial impact of privately operated Seattle-South kitsap POF service on WSF is dependent upon fleet size and levels of service offered by a public-private operator.

Other Specific Findings

- WSF has significant passenger carrying capacity on its Central Puget Sound passenger-vehicle ferries, and with few exceptions will continue to have excess capacity through 2015.
- The most efficient and cost effective means of moving passengers across Puget Sound is via WSF's large passenger-vehicle boats until WSF's passenger-vehicle and terminal capacities are reached.

APPENDIX B

FERRY OPERATOR QUESTIONNAIRE FORM

INTRODUCTION

King County Metro is currently undertaking a study to determine under what conditions and circumstances it may be appropriate for the agency to invest and/or participate in passenger ferry service. The goal of the project is to provide King County staff and decision makers with the information and recommendations they need to determine whether or not the provision of such service is feasible, and if so, what the potential role of the County and others should be. As part of this study, IBI Group, a transportation consulting firm, is documenting the experience of selected peer agencies and regions who operate waterborne transit service. This will assist in identifying issues, options, considerations and best practices to inform the study.

We would very much appreciate it if you would provide responses to the following questions. A member of our consulting team will be contacting you this week to follow up.

1.

Name of Organization:	Number of Years in Operation:
Street Address:	Contact Person:
City, State, and Zip Code:	Telephone Number:

2. Type of Organization (please check only one)

1❑ Transit authority / agency
2❑ State / provincial government
3❑ Municipality
4❑ Private operator
5❑ Other (please specify) _____

3. Operational Model (please check all that apply)

1❑ Planning agency (do not operate ferries or contract for ferry operations)
2❑ Agency operating own vessels
3❑ Agency contracting for vessel operation (one contractor)
4❑ Agency contracting for vessel operation (multiple contactors)
5❑ Ferry operating company
6❑ Other: _____

4. Routes

a.) How many routes do you operate or are responsible for? _____

b.) Are routes seasonal or year round? (please check only one)

1❑ Seasonal
2❑ Year-round

c.) At what times do routes operate? (please check all that apply)

1❑ Peak period only
2❑ Weekdays only (peak and off peak)
3❑ Full service (weekday and weekend all day service)

d.) Do you operate any routes on weekends only? (please check only one)

1❑ Yes
2❑ No

e.) Do you increase service on any route during the weekend? (please check only one)

1❑ Yes
2❑ No

5. Ridership

a.) What is the total annual ridership for your ferry system? _____

b.) In the last five years, how has the number of riders changed? (please check only one)

1❑ Increased
2❑ Stayed the same
3❑ Decreased

c.) What percentage of trips are taken for each of the following trip purposes?

Commute	%
Recreation / social	%
Personal business	%
Tourism	%
Other (please specify) %	

d.) What percentage of total ridership occurs during peak commuter periods? _____%

e.) What percentage of passengers make the trip from origin to terminal by each of the following modes for their first trip of the day?

Car (drive and park)	%
Car (dropped off)	%
Bus/Train	%
Walk	%
Bicycle	%
Other (please specify) %	

f.) What percentage of passengers make the trip from terminal to destination by each of the following modes on their first trip of the day?

Car (drive and park)	%
Car (dropped off)	%
Bus / train	%
Walk	%
Bicycle	%
Other (please specify)	%

g.) What percentage of passengers drive from their origin to the terminal and then from the terminal to their destination (i.e., they have cars parked on both sides)? _____%

6. Fare and Financial

a.) Is your fare system integrated with a bus or rail system? (please check only one)

1❑ Yes If Yes, is a premium charged for the ferry service? 3❑ Yes
2❑ No 4❑ No

b.) Do you have multiple fare zones for ferry routes? (please check only one)

1❑ Yes
2❑ No

c.) Are you free to set fares, or do you have to apply to a regulatory agency? (please check only one)

1❑ Free to set fares
2❑ Must apply to regulatory agency

d.) Please list the fare charged for each category in the space provided.

Fare Categories	Adult Cash One Way	Adult Monthly Pass
Fares		

e.) What portion of your operating costs are recovered from the farebox? _____%

f.) If you allow advertising on board ferries or at terminals, what percentage of revenue comes from advertising? _____%

g.) If you allow concessions on board ferries or at terminals, what percentage of revenue comes from concessions? _____%

h.) If you allow charters or operate sightseeing cruises, what percentage of revenue come from these sources? _____%

i.) What other sources of funding are available to cover operating costs?

FUNDING SOURCES	**Used for Operating Costs (check all that apply)**	**Percentage of Costs Covered by Source**
Direct sales tax / gasoline tax	1❑	%
Direct property tax	2❑	%
Municipal subsidy	3❑	%
Regional government subsidy	4❑	%
Provincial / state government subsidy	5❑	%
Federal / national subsidy	6❑	%

j.) What other sources of funding are available to cover capital costs?

FUNDING SOURCES	**Used for Capital Costs (check all that apply)**	**Percentage of Costs Covered by Source**
Direct sales tax / gasoline tax	1❑	%
Direct property tax	2❑	%
Municipal subsidy	3❑	%
Regional government subsidy	4❑	%
Provincial / state government subsidy	5❑	%
Federal / national subsidy	6❑	%

k.) In the last five years, how has the amount of revenue changed?

1❑ Increased
2❑ Stayed the same
3❑ Decreased

l.) What is the system wide annual budget? _____

m.) Please indicate the your cost per passenger mile/km if known. _____

n.) What is the average subsidy per passenger? _____

7. Operations

a.) Do vessels operate with the minimum crew permitted by regulations, or are additional personnel used? (please check only one)

1❑ Minimum permitted
2❑ Additional personnel (please specify how many per vessel) _____

b.) What is the on time performance of the ferry system? _____%

c.) What is the total number of trips per year (scheduled) for the ferry system? _____

d.) How many scheduled trips are cancelled?

	NUMBER OF TRIPS
Trips cancelled for mechanical reasons	
Trips cancelled for weather (wind, fog, etc.) reasons	
Trips cancelled due to tides or sea conditions	
Trips cancelled for other reasons	
Total trips cancelled	

e.) What is the classification of the waterways traveled by the ferries? _____

f.) During peak times, are passengers ever asked to wait for next sailing due to a vessel reaching its maximum capacity? (please check only one)

1❑ Frequently
2❑ Sometimes
3❑ Rarely or never

g.) Do any of your routes or vessels have speed restrictions due to wake and wash issues? (please check only one)

1❑ Yes
2❑ No

8. Vessels

a.) Please provide the following information by vessel type:

Vessel Type or Class	Number of Vessels	Hull Type	Maximum Speed	Fuel Type	Fuel Consumption	Passenger Capacity	Year Built	Estimated Life	Estimated Cost per Hour	Usual Crew

b.) Do you have new vessels on order? (please check only one)

1❑ Yes
2❑ No

c.) Please provide the following information by vessel type for the new vessels on order:

Vessel Type or Class	Number of Vessels	Hull Type	Maximum Speed	Fuel Type	Fuel Consumption	Passenger Capacity	Year Built	Estimated Life	Estimated Cost per Hour	Usual Crew

9. Terminals

a.) Do you provide car parking at any terminals? (please check only one)

1❑ Yes
2❑ No

b.) If yes, is parking free, or do you charge? (please check only one)

1❑ Free
2❑ Charge (please specify parking fee) _____

c.) Are enclosed passenger waiting areas provided at most or all terminals? (please check only one)

1❑ Yes
2❑ No

d.) Do you own or lease the terminals used by your ferry service? (check all that apply)

1❑ Own
2❑ Lease from public agency
3❑ Lease from private owner

e.) In what types of areas are terminals located? (check all that apply)

1❑ Commercial
2❑ Industrial
3❑ Residential
4❑ Park area
5❑ Other (please specify) _____

f.) If dredging is required on a regular basis, who is responsible for dredging? (check all that apply)

1❑ Ferry agency
2❑ Port authority
3❑ Corps of engineers
4❑ Other (please specify) _____

g.) How many dockhands are required at each terminal? _____

h.) What is the maximum range of tides? _____ feet

10. Maintenance

a.) How many spare vessels do you have? _____

b.) When is maintenance done on vessels? _____

c.) Where are vessels moored overnight? _____

d.) Do you have a dedicated maintenance facility?

1❑ Yes
2❑ No

e.) Is servicing done by staff or contracted?

1❑ By staff
2❑ Contracted

APPENDIX C

FERRY OPERATOR QUESTIONNAIRE AND INTERVIEW RESPONSES

IBI GROUP

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1. QUESTIONNAIRE RESPONSES

A. GENERAL INFORMATION

	Kitsap Transit	New York Water Taxi	San Francisco Bay Area Water Transit Authority	Sydney Ferries	Vallejo BayLnk Ferries	Vancouver SeaBus	Victoria Harbour Ferry Company	Washington State Ferries[1]
Number of years of ferry operation	1[2]	3	4[3]	9 months[4]	19	28	15	54

Type of Organization	Kitsap Transit	New York Water Taxi	San Francisco Bay Area Water Transit Authority	Sydney Ferries	Vallejo BayLnk Ferries	Vancouver SeaBus	Victoria Harbour Ferry Company	Washington State Ferries
Transit authority / agency	✓		✓			✓		
State / provincial government								✓[5]
Municipality					✓			
Private operator		✓					✓	
Other				✓[6]				

[1] Washington State Ferries responses are for Seattle-Vashon passenger-only unless otherwise noted.
[2] Passenger-only ferry services between Bremerton-Seattle and Kingston-Seattle operated by private operators in a joint agreement with Kitsap Transit have both began in the past year. Kitsap Transit has operated a foot ferry service between Bremerton and Port Orchard since January 2004.
[3] San Francisco Bay Area Water Transit Authority (WTA) has existed for four years as a planning agency.
[4] Ferries have been operating in Sydney Harbour for 135 years. However, the current State Owned Corporation, which took over from the former government operator, has only been in existence for nine months.
[5] 15 years for Vashon Island P.O.
[6] Sydney Ferries is a State Owned Corporation.

Operational Model	**Kitsap Transit**	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Planning agency			✓					
Agency operating own vessels			TBD[7]					✓
Agency contracting with one contractor	✓[8]		TBD		✓	✓		
Agency contracting with multiple contractors	✓[9]		TBD					
Ferry operating company		✓		✓			✓	✓
Other								

B. ROUTES

	Kitsap Transit	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Number of routes	3[10]	4	≤7	9	1	1	2	1[11]

	Kitsap Transit	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Seasonal		✓[12]						
Year-round		✓	✓	✓	✓	✓	✓	✓

[7] Type of operation (direct vs. contracted) to be determined in the next few years.
[8] Port Orchard foot ferry.
[9] Bremerton-Seattle and Kingston-Seattle joint development agreements – not contracted.
[10] One contracted and two through joint development agreements.
[11] One passenger-only route – 12 routes in all.
[12] One of the four routes is seasonal.

	Kitsap Transit	New York Water Taxi	San Francisco Bay Area Water Transit Authority	Sydney Ferries	Vallejo BayLink Ferries	Vancouver SeaBus	Victoria Harbour Ferry Company	Washington State Ferries
Peak period only	✓[13]	✓[14]						
Weekdays only								✓
Full service	✓	✓	✓	✓	✓	✓	✓	

Operate weekend only routes	Kitsap Transit	New York Water Taxi	San Francisco Bay Area Water Transit Authority	Sydney Ferries	Vallejo BayLink Ferries	Vancouver SeaBus	Victoria Harbour Ferry Company	Washington State Ferries
Yes								
No	✓	✓	✓	✓	✓	✓	✓	✓

Increase service on weekends	Kitsap Transit	New York Water Taxi	San Francisco Bay Area Water Transit Authority	Sydney Ferries	Vallejo BayLink Ferries	Vancouver SeaBus	Victoria Harbour Ferry Company	Washington State Ferries
Yes	✓[15]			✓			✓	
No		✓	✓		✓	✓		✓

C. RIDERSHIP

	Kitsap Transit	New York Water Taxi	San Francisco Bay Area Water Transit Authority	Sydney Ferries	Vallejo BayLink Ferries	Vancouver SeaBus	Victoria Harbour Ferry Company	Washington State Ferries
Annual Ridership	475,000[16]	560,000	None[17]	14 million	724,400	5 million	200,000	206,000

[13] Bremerton-Seattle and Kingston-Seattle joint development agreement.
[14] Three peak-period only services are operated year round. One all day (weekday and weekend) service is operated in the summer).
[15] Larger boat used on Port Orchard-Bremerton during the summer.
[16] Port Orchard-Bremerton 375,000 passengers a year. Two new joint development agreement routes at about 100,000 per year but growing rapidly (at a rate of about 25 passengers per day per month). Current ridership on these routes is about 400 passengers/day).
[17] WTA is still in planning stages.

Change in Ridership	**Kitsap Transit**	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Increased		✓	N/A	✓			✓	
Stayed the same			N/A			✓		
Decreased			N/A		✓			✓

Trip purpose	**Kitsap Transit**	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Commute	>90%[18]	55%	N/A	N/A	90%[19]	N/A	N/A	86%
Recreation / social	N/A	15%	N/A	N/A	N/A	N/A	N/A	8%
Personal business	N/A		N/A	N/A	N/A	N/A	N/A	6%
Tourism	N/A	30%	N/A	N/A	N/A	N/A	N/A	
Other	N/A		N/A	N/A	N/A	N/A	N/A	

Origin to terminal mode	**Kitsap Transit**	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Car (drive & park)	N/A	15%	N/A	N/A	85%[20]	N/A	N/A	
Car (dropped off)	N/A	5%	N/A	N/A	10%	N/A	N/A	46%
Bus / train	N/A	10%	N/A	N/A	1%	N/A	N/A	
Walk	N/A	70%	N/A	N/A	3%	N/A	≈100%[21]	17%
Bicycle	N/A	0%	N/A	N/A	0%	N/A	Included in walk	37%
Other	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

[18] For cross Sound routes.
[19] From 2004 rider survey. Percentages are approximate. Most respondents from sailings between 6 AM and 8 AM.
[20] From 2004 rider survey. Percentages are approximate. Most respondents from sailings between 6 AM and 8 AM.
[21] Victoria Harbour Ferries estimates that close to 100% of their passengers arrive at and depart from their terminals by non-motorized modes.

	Kitsap Transit	New York Water Taxi	San Francisco Bay Area Water Transit Authority	Sydney Ferries	Vallejo BayLink Ferries	Vancouver SeaBus	Victoria Harbour Ferry Company	Washington State Ferries
Ridership occurring during peak periods	75%-100%[22]	N/A	N/A	N/A	N/A	30%[23]	N/A	70%

Terminal to destination mode	Kitsap Transit	New York Water Taxi	San Francisco Bay Area Water Transit Authority	Sydney Ferries	Vallejo BayLink Ferries	Vancouver SeaBus	Victoria Harbour Ferry Company	Washington State Ferries
Car (drive)	N/A	N/A	N/A	N/A	0%[24]	N/A	N/A	
Car (picked up)	N/A	N/A	N/A	N/A	0%	N/A	N/A	15%
Bus / train	N/A	N/A	N/A	N/A	35%	N/A	N/A	21%
Walk / bicycle	N/A	N/A	N/A	N/A	63%	N/A	≈100%[25]	64%
Bicycle	N/A	N/A	N/A	N/A	1%	N/A	Included in walk	
Other	N/A		N/A	N/A	1%[26]	N/A	N/A	

Passengers who drive from origin to terminal & then from terminal to destination	Kitsap Transit	New York Water Taxi	San Francisco Bay Area Water Transit Authority	Sydney Ferries	Vallejo BayLink Ferries	Vancouver SeaBus	Victoria Harbour Ferry Company	Washington State Ferries
Percentage	0%	N/A	N/A	N/A	0%	N/A	N/A	Unknown

[22] Port Orchard-Bremerton 75%, cross Sound routes 100%.
[23] Estimated.
[24] From 2004 rider survey. Percentages are approximate. Most respondents from sailings between 6 AM and 8 AM.
[25] Victoria Harbour Ferries estimates that close to 100% of their passengers arrive at and depart from their terminals by non-motorized modes.
[26] Most common "other" indicated was taxi.

D. FARE AND FINANCIAL

Ferry fare system integrated with bus or rail fare system	**Kitsap Transit**	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Yes	✓[27]		✓	✓[28]	✓	✓		
No		✓					✓	✓
Premium charged for ferry	✓[29]			✓		✓		

Multiple fare zones for ferry routes	**Kitsap Transit**	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Yes		✓	TBD	✓		✓[30]	✓	
No	✓		TBD		✓			✓

	Kitsap Transit	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Free to set fares	✓[31]	✓	✓		✓		✓	✓
Must apply to regulatory agency	✓[32]			✓		✓[33]		

[27] Port Orchard-Bremerton is fully integrated (a bus route that floats). The cross-Sound routes have a shared pass, but at a premium price.
[28] In implementation stage.
[29] Only for the cross-Sound routes.
[30] Multiple fare zones for ferry routes when traveler is connecting with TransLink bus or SkyTrain service.
[31] Kitsap Transit free to set fares on Port Orchard-Bremerton service.
[32] Private operators of cross-Sound routes must get UTC approval.
[33] SeaBus fares set by TransLink, not Coast Mountain Bus.

Adult fares	**Kitsap Transit**	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
One-way (1 zone)			TBD		$10	$2.25[34]	$3.50[35]	$4.05
One-way (2 zone)			TBD		N/A	$3.25	N/A	
One-way (3 zone)			TBD		N/A	$4.50	N/A	
Month pass (1 zone)			TBD		$215	$69	$30[36]	$111.10
Month pass (2 zone)			TBD		N/A	$95	N/A	
Month pass (3 zone)			TBD		N/A	$130	N/A	

Adult fares	**Kitsap Transit**	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Farebox recovery ratio	7% & 100%[37]	N/A	≥40%[38]	45.2%	≈60%	83%	100%	28%

Operating funding sources	**Kitsap Transit**	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Direct sales tax / gasoline tax	93% & 0%[39]	N/A				26%[40]	0%	72%
Direct property tax	0%	N/A				14%	0%	
Municipal subsidy	0%	N/A	✓[41]			0%	0%	
Regional government subsidy	0%	N/A	✓		≈40%	0%	0%	
Provincial / state government	0%	N/A		32.8%		0%	0%	

[34] All fares in Canadian dollars.
[35] All fares in Canadian dollars.
[36] Good for 12 one-way trips.
[37] Port Orchard-Bremerton 7%, cross-Sound routes 100%.
[38] Must be at least 40%, by California state law.
[39] For Port Orchard-Bremerton, and cross-Sound, respectively.
[40] TransLink does not fund operating and capital expenses separately. TransLink funding is integrated across modes – percentages apply to Transit operating costs.
[41] Potentially.

Operating funding sources	**Kitsap Transit**	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
subsidy								
Federal / national subsidy	0%	N/A	✓			0%	0%	
Advertising at terminal or on vessels	Miniscule	N/A		0.023%		1%	0%	
Concessions at terminals or on vessels	>10%[42]	N/A		10.56%		0.1%	0%	
Charters or sightseeing	0%	N/A		1.3%		0%	N/A	
Other	0%	N/A				3%	0%	

Capital funding sources	**Kitsap Transit**	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Direct sales tax / gasoline tax	✓	N/A		N/A		✓	0%	62.8%
Direct property tax		N/A		N/A		✓	0%	
Municipal subsidy		N/A		N/A			0%	
Regional government subsidy		N/A	✓	N/A			0%	
Provincial / state government subsidy		N/A	✓	N/A	≈20%		0%	26.2%
Federal / national subsidy	✓	N/A	✓	N/A	≈80%		0%	11%
Other		N/A		N/A		✓	0%	

[42] Estimated in budgets of cross-Sound operators.

Change in revenue over past five year	**Kitsap Transit**	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Increased	✓	✓	N/A	✓		✓	✓	✓
Stayed the same			N/A		✓			
Decreased			N/A					

	Kitsap Transit	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
System wide annual budget	$25 million[43]	N/A	$3 million[44]	$102 million[45]	$7.4 million	$6.5 million	N/A	$2.4 milllion[46]
Cost per passenger mile	$3.45[47]	N/A	N/A	$0.21[48]	$0.43	N/A	N/A	$0
Average subsidy per passenger	93% & 0%[49]	N/A	N/A	$2.02	$4.72	N/A	$0	$8.32

E. OPERATIONS

Crew size	**Kitsap Transit**	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Minimum permitted	✓[50]	✓	TBD	✓	✓	✓	✓	
Additional personnel	1-2[51]		TBD					✓

[43] $25 million operating budget for entire Kitsap Transit system (not just ferry). $10.2 million a year capital budget.
[44] Current budget (planning stage, not yet operating stage).
[45] All Sydney Ferries costs in Australian dollars.
[46] Fiscal Year 2004
[47] For Port Orchard-Bremerton.
[48] Per kilometer.
[49] Port Orchard-Bremerton and cross-Sound, respectively.
[50] Port Orchard-Bremerton
[51] Cross-Sound.

	Kitsap Transit	New York Water Taxi	San Francisco Bay Area Water Transit Authority	Sydney Ferries	Vallejo BayLink Ferries	Vancouver SeaBus	Victoria Harbour Ferry Company	Washington State Ferries
On-time performance	>99%	95%	N/A	N/A	>99%	99.9%	>95%	96.2%[52]
Number of annual scheduled trips	N/A	N/A	N/A	172,796[53]	≈8,300	41,820	N/A	4,176[54]
Trips cancelled for mechanical reasons	N/A	N/A	N/A	N/A	326[55]	35[56]	0	15
Trips cancelled for weather	N/A	N/A	N/A	N/A	3	0	Minimum	13
Trips cancelled for sea conditions	N/A	N/A	N/A	N/A	0	0	Minimum	
Trips cancelled for other reasons	N/A	N/A	N/A	N/A	27	5 months[57]	0	2
Total trips cancelled	10/year & 2%[58]	N/A	N/A	N/A	356	N/A	N/A	30

	Kitsap Transit	New York Water Taxi	San Francisco Bay Area Water Transit Authority	Sydney Ferries	Vallejo BayLink Ferries	Vancouver SeaBus	Victoria Harbour Ferry Company	Washington State Ferries
Classification of waterways	Inland waterway & cross-Sound	Lakes, bays, sounds	Semi protected	N/A	Lakes, bays, sounds	Home Trade IV	Protected, partially protected	Lakes, bays, sounds

[52] Fiscal Year 2005
[53] Including cruises.
[54] Calendar Year 2004
[55] Cancelled trips listed are the total number since July 1, 2000.
[56] Cancelled trips listed are the total number in 28 years of service.
[57] SeaBus service was cancelled for approximately five months due to a strike.
[58] Ten per year on Port Orchard-Bremerton route. Less than 2% per year projected for cross-Sound routes.

Passengers asked to wait for next sailing[59]	**Kitsap Transit**	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Frequently			N/A					
Sometimes		✓	N/A	✓		✓	✓	
Rarely or never	✓[60]		N/A		✓			✓

Speed restricted due to wake / wash issues	**Kitsap Transit**	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Yes	✓[61]		✓[62]	✓	✓		✓[63]	✓
No		✓				✓[64]		

F. VESSELS

New York Water Taxi	Vessel type or class	Number of vessels	Hull type	Maximum speed	Fuel type	Fuel consumption	Passenger capacity	Year built	Estimated life	Estimated cost per hour	Usual crew
		3	Catamaran	22 knots	Diesel	N/A	74	2002	N/A	N/A	2-3[65]
		3	Catamaran	22 knots	Diesel	N/A	74	2003	N/A	N/A	2-3
		2	Catamaran	28 knots	Diesel	N/A	149	2005	N/A	N/A	2-3

[59] Passengers asked to wait because the vessel has reached maximum capacity.
[60] Do not currently exceed maximum capacity, but are very close on key sailings on all three routes.
[61] Bremerton-Seattle operates at 12 knots through Rich Passage. Kitsap Transit participating in wake research to be able to increase speed to 30 knots.
[62] This is yet to be determined, but speed restrictions are likely.
[63] Limited to 7 knots
[64] SeaBus was limited to 11.5 knots for several years. The restriction was lifted, but SeaBus continues to generally travel at 11.5 knots.
[65] Usually a crew of two in the winter and a crew of three in the summer.

San Francisco Bay Area Water Transit Authority[66]	Vessel type or class	Number of vessels	Hull type	Maximum speed	Fuel type	Fuel consumption	Passenger capacity	Year built	Estimated life	Estimated cost per hour	Usual crew
	IMO or K boat	20	Catamaran	25 knots	TBD	TBD	220	TBD	25+	TBD	TBD
	IMO or K boat	10	Catamaran	35 knots	TBD	TBD	300+	TBD	25+	TBD	TBD
	T boat	1	Catamaran	15 knots	H_2	TBD	149	TBD	25+	TBD	TBD

Sydney Ferries	Vessel type or class	Number of vessels	Hull type	Maximum speed	Fuel type	Fuel consumption	Passenger capacity	Year built	Estimated life	Estimated cost per hour	Usual crew
	Freshwater	4	Mono steel	18 knots	Diesel	280 L/hr	1100	1980-1988	37		6
	Jet Cat	3	Catamaran aluminum	32 knots[67]	Diesel	350 L/hr	280	1990-1991	20		4
	Lady	2	Mono steel	11 knots	Diesel	95 & 45 L/hr	815 & 554	1975 & 1979	40		4 & 3
	First Fleet	9	Catamaran aluminum	11 knots	Diesel	65 L/hr	393-400	1984-1986	30		3
	River Cat	7	Catamaran aluminum	22 knots	Diesel	90 L/hr	230	1992-1995	20		3
	Harbour Cat	2	Catamaran aluminum	22 knots	Diesel	50 L/hr	150	1998	16		2
	Super Cat	4	Catamaran aluminum	26 knots[68]	Diesel	209 L/hr	250	2000-2001	15		3

Vallejo BayLink Ferries	Vessel type or class	Number of vessels	Hull type	Maximum speed	Fuel type	Fuel consumption	Passenger capacity	Year built	Estimated life	Estimated cost per hour	Usual crew
	Intintoli	2	AL Catamaran	38 knots	Diesel	2000	300	1997	25	$780	4
	Vallejo	1	AL Catamaran	38 knots	Diesel	1500	300	2001[69]	25	$780	4
	Salano	1	AL Catamaran	38 knots	Diesel	2300	300	2004	25	$780	4

[66] Planned fleet – none owned yet.
[67] Service speed is 29 knots.
[68] Service speed is 24 knots.
[69] Rebuilt in 2001, built in 1991.

Vancouver SeaBus	Vessel type or class	Number of vessels	Hull type	Maximum speed	Fuel type	Fuel consumption	Passenger capacity	Year built	Estimated life	Estimated cost per hour	Usual crew
	Home Trade IV	2	Catamaran	14 knots	Diesel	98 L/hr	400	1976	50	$616	4

Victoria Harbour Ferry Company	Vessel type or class	Number of vessels	Hull type	Maximum speed	Fuel type	Fuel consumption	Passenger capacity	Year built	Estimated life	Estimated cost per hour	Usual crew
		14	FRP		Diesel		12				1

Washington State Ferries	Vessel type or class	Number of vessels	Hull type	Maximum speed	Fuel type	Fuel consumption	Passenger capacity	Year built	Estimated life	Estimated cost per hour	Usual crew
	Monohull	2	Monohull	19 knots	Diesel	81 G/hr	250	1989	20	$532	5

New vessels on order	**Kitsap Transit**	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Yes	✓	✓[70]					✓[71]	
No			✓[72]	✓	✓	✓[73]		✓

[70] Vessel description above – vessels to be delivered in 2005.
[71] Victoria Harbour Company plans to purchase two or more vessels of the same type as their current fleet.
[72] Vessels described above are new, planned vessels.
[73] TransLink has indicated that a third ferry will be purchased for SeaBus by 2009.

G. TERMINALS

Parking	**Kitsap Transit**	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
No parking provided						✓	✓	
Free parking provided		✓[74]	TBD[75]	✓	✓			✓[76]
Pay parking provided		✓	TBD					

Enclosed waiting area	**Kitsap Transit**	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Yes			✓	✓	✓[77]	✓		✓
No		✓[78]					✓[79]	

Terminal ownership	**Kitsap Transit**	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Own terminal		✓	✓		✓[80]	✓[81]	✓	✓
Lease from public agency		✓		✓	✓[82]		✓	
Lease from private owner		✓					✓	

[74] Free parking provided at one terminal. At another terminal parking costs $4.
[75] WTA plans to provide parking, but has not yet determined whether a parking fee will be charged.
[76] At Southworth Terminal
[77] The enclosed waiting areas are separate from the ferry queue, therefore passengers often wait outside so as not to loose their place in line.
[78] Enclosed waiting areas are provided at three terminals.
[79] Victoria Harbour Ferry Company (VHF) does not provide enclosed waiting areas. Some docks served by VHF have covered waiting areas, with awnings supplied by the dock owners.
[80] Vallejo terminal.
[81] Terminal owned by TransLink.
[82] San Francisco terminal.

Land use types at terminal locations	**Kitsap Transit**	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Commercial		✓	✓	✓	✓	✓	✓	✓
Industrial		✓	✓				✓	✓
Residential		✓		✓	✓	✓	✓	✓
Park		✓	✓	✓			✓	

Dredging responsibility	**Kitsap Transit**	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Ferry agency					✓	✓	N/A	
Port authority				✓			N/A	
Corps of engineers		✓	✓[83]				N/A	

Dockhands	**Kitsap Transit**	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Number required at each terminal		0	TBD	N/A	0	2	0	2

	Kitsap Transit	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Range of tides in feet	15	4-6	N/A	N/A	9	17	10	15

H. MAINTENANCE

	Kitsap Transit	**New York Water Taxi**	**San Francisco Bay Area Water Transit Authority**	**Sydney Ferries**	**Vallejo BayLink Ferries**	**Vancouver SeaBus**	**Victoria Harbour Ferry Company**	**Washington State Ferries**
Number of spare vessels		1	2 initially	9	1	0	0 - 6[84]	1
Time when maintenance is done		75% at night	TBD	All hours	Evenings & weekends	At night	Ongoing, winter overhaul	At night, weekends, & lay-up periods

[83] Corps of engineers under WTA direction.
[84] No spare vessels during peak use, 5-6 spare vessels during low use periods.

	Kitsap Transit	New York Water Taxi	San Francisco Bay Area Water Transit Authority	Sydney Ferries	Vallejo BayLink Ferries	Vancouver SeaBus	Victoria Harbour Ferry Company	Washington State Ferries
Overnight mooring location		Private docking facility	TBD	Circular Quay, Manly, Balmain	Ferry maint. & fueling facility	Adj. maint. dock	Corporate headquarters dock	Eagle Harbor Maint. Facility

Dedicated maintenance facility	Kitsap Transit	New York Water Taxi	San Francisco Bay Area Water Transit Authority	Sydney Ferries	Vallejo BayLink Ferries	Vancouver SeaBus	Victoria Harbour Ferry Company	Washington State Ferries
Yes		✓	✓[85]	✓	✓	✓	✓	✓
No								

Servicing	Kitsap Transit	New York Water Taxi	San Francisco Bay Area Water Transit Authority	Sydney Ferries	Vallejo BayLink Ferries	Vancouver SeaBus	Victoria Harbour Ferry Company	Washington State Ferries
Done by staff		✓	TBD	✓		✓	✓	✓
Contracted		✓	TBD	✓	✓[86]			

[85] WTA plans to have a dedicated maintenance facility.
[86] Maintenance done by same contractor operates the vessels.

2. KITSAP TRANSIT INTERVIEW

Interviewee: Richard Hayes – Kitsap Transit

March 17, 2005 – 12:30 PM

1. Summarize the role of Kitsap Transit and the roles of the Kitsap Ferry Company and Aqua Express in the new Bremerton and Kingston services.

Kitsap Transit operates a "foot ferry" between Port Orchard and Bremerton (which carries an average of 84 passenger/hour). Vessel operation is provided by a contractor, who is paid by Kitsap Transit.

The two cross-Sound services are an entirely different arrangement. Two private operators, Kitsap Ferry Company and Aqua Express, are in joint development agreements with Kitsap Transit. Kitsap Transit has a standard joint development agreement, which can be modified with addenda for individual routes.

The general spirit of the joint development agreement is that Kitsap transit provides most of the infrastructure and the private operators operate the service (as a business rather than under contract with Kitsap Transit). However, the actual implementation varies, particularly as the services are just getting started.

Kitsap Ferry Company operates a Bremerton-Seattle route (which began in August 2004). Aqua Express operates a Kingston-Seattle route (which began in January 2005).

Kitsap Transit owns and provides the Bremerton terminal. The Kingston terminal was built by Aqua Express and Kitsap Transit is buying it back. The Seattle terminals (Piers 55/56 and 56) are owned by Argosy Cruises. Kitsap Transit operates and maintains the terminals in Kitsap County.

Currently, the vessels used are owned or leased by the private operators. However, Kitsap Transit is working on developing its own fleet. The private operators also maintain their own vessels. Once a year Kitsap Transit maintenance checks the vessels.

Onboard concessions are staffed by the private operators. The vessel crew consists of three primary crew members (the number required by the Coast Guard) plus two people selling food. All crew members are trained to handle emergencies, so if there ever were an emergency there would be five crew members to manage it.

The joint development agreement allows Kitsap Transit to provide an operating subsidy, but no subsidy is used at the moment.

According to Utility and Transportation Commission (UTC) rules, the private operators can only make up to 7% profit. In a few years time, if either of the private operators are making over 7% profit, Kitsap Transit and the operator can go to the UTC together to ask for certain changes. We would like to see fare reductions, with rush-hour travelers still paying their way, and expanded service hours. As the new sailing would still developing their ridership base, Kitsap Transit could buy the number of seats needed on those sailings for the operators to break even.

2. What was the basis of the decision to create the ferry services?

Reliable, passenger-only ferry service is an important economic advantage for Kitsap community.

A transit system without a city is in trouble. Business didn't want to move to Bremerton because of insufficient ferry service. Bremerton is the prime city under growth management. Supporting economic development in Bremerton supports growth management.

In the case of Kingston, there were two to three ways to get to Seattle, and all were bad.

Passenger-only ferries help the transportation network function better with fewer people driving from other parts of the County, down SR 305 to the Bainbridge ferry.

Ferry users parking cars is in the way of revitalizing Bremerton.

Passenger-only ferries can also help reduce bus system costs. Instead of having to carry 100 people 14 miles, Kitsap Transit can carry them two miles to the fast ferry terminal. The passenger-only ferries have given Kitsap Transit a good reason to increase buses in Kingston.

Go down the Kitsap Transit mission statement and passenger-only ferries help us achieve most of our goals.

3. Do you have a formal process for evaluating potential new routes or services? If yes, may we have a copy of your evaluation process?

We used a formal process, based on survey data. The survey data tells us about the price / ridership relation.

4. Is enhanced system integration with bus and/or rail being planned?

The whole point of providing passenger-only ferry service and the joint development agreement is to have the buses and ferries meet.

5. Are vessel engine emissions an issue for your agency? If so what is being done?

New vessels must meet the '07 emissions standards. We'll be using ultra low sulfur fuel.

Kitsap Transit is buying boats. We will get vessels with better fuel efficiency, less pollution, and better comfort than what private operators would buy.

Our goal is to have 149-passenger vessels that consume 100 gallon/hour.

6. Is vessel wake an issue for your agency? If so, what is being done?

Wake is a huge issue.

The Bremerton route goes through Rich Passage, and the folks there see Kitsap Transit as the successor evil empire.

We are working with Pacific International Engineering (PIE) on a research project in Rich Passage. The project with provide detailed data and tools for developing a vessel that will produce a small enough wake to not cause damage while traveling at fast speeds. Several months of trials will be done using a state-of-the-art low wake vessel from Bellingham, to measure the raw wake impact and the repeat wake impact. We are also renting two catamarans from the army. The last phase of the research will be installing site-specific shoreline improvements to mitigate impacts. Kitsap Transit is working with local governments to get a categorical exclusion from the typical environmental permitting process in order to speed the process. The goal of the research, special vessel design, and shore-side mitigation is to be able to have a half hour transit from Bremerton to Seattle. When WSF passenger-only ferries where making the crossing in a half hour reservations were almost needed.

7. Are funding changes being contemplated?

8. Is your ferry system part of any innovative partnerships? If so, please describe.

See question 1.

9. Do private developers or employers subsidize operation of your ferry service in any way?

10. a) If you do not own the terminals and docking facilities you use, with whom and what type of arrangement, (lease, landing fees etc.?) do you have for use of the necessary facilities?

10. b) If you developed and own the terminal and docking facilities, were private development fees or contributions used to help fund development of the facility?

11. Are any terminals located in joint use facilities? If yes, please describe.

Almost always. The passenger-only terminals are paired with car ferry terminals.

12. Have any terminals stimulated adjacent transit oriented development? If yes, please describe.

That is what we are trying to do. In Bremerton, public agencies have spent a couple hundred million on revitalization in downtown Bremerton. Southworth needs to be made into an urban village. The zoning has not yet been changed.

Kitsap Transit and WSDOT are working together to go to Legislature and have the Legislature changes the laws that are preventing WSDOT from contributing to transit oriented developments.

13. Have any of your terminals raised environmental or neighborhood impact issues? If so please explain.

Kitsap Transit is working on the fourth dock, for Southworth. Before permitting or construction, we will go talk with the Resource Agency and have them tell us what they want. The fish windows are very narrow, which makes dock construction difficult.

One of the potential locations for the Southworth dock is the shoreside community of Harper. Harper has an abandoned WSF terminal. From the waterside the Harper terminal is superior to Southworth – the water is 42 feet deep at the end of the dock. However, the terminal was abandoned in the first place because there is no place to store cars. The residents of Harper are very concerned that they would be overwhelmed by traffic and people trying to park cars.

If Harper is selected, ferry passengers will not be allowed to park in Harper, or get dropped off by car in Harper. Kitsap Transit would run a shuttle service from a nearby Park & Ride and pay for a police officer to patrol Harper and ticket ferry riders who try to park there.

However, Kitsap Transit's first preference is to have the new terminal adjacent to the existing WSF Southworth terminal.

At either Southworth location, the limited terminal capacity and bus capacity will determine the vessel size.

14. Are existing facilities adequate? Why or why not?

When the services get so popular that demand exceeds the capacity of the vessels, there may be problems. If people have to wait in line, it would give an advantage to people who drove to the terminals,

rather than rode the bus that was timed to arrive five minutes before the ferry leaves. If that happened, we would bus riders a special ticket to allow them to board first.

15. Are new facilities being planned? If so, why?

Kitsap Transit is working with the City of Seattle and the Waterfront Action Team on potentials for a new downtown passenger-only ferry terminal. Kitsap Transit would like to see a 15-20 boat terminal.

The current Kingston dock is a 40-foot by 90-foot barge. This will be replaced with a purpose built cement float that will be able to accommodate four to five boats.

Bremerton currently has the best facility.

The 1996 WSF Plan already did a substantial portion of the necessary environmental assessment – Kitsap Transit had been able to just built upon that.

16. Are your terminals, ramps and floats fully accessible at all tide heights? If not, how do you accommodate disabled passengers when ramps are not within ADA requirements?

At current facilities there are about ten tides a year when ramps are not ADA compliant. The new 130 foot ramp in Port Orchard will drop that down to one tide a year at that terminal. During those tides, people have had to be carried. Accessibility should not be a problem with the new docks.

17. Are there plans to replace the vessels?

Yes. It takes about two years to get a boat that is suited to a particular service.

Kitsap Transit is planning to use 149-passenger vessels. 149-passenger vessels can be evacuated faster, so the Coast Guard requires fewer redundant systems, which reduces the vessel weight, which in turn improves fuel efficiency and results in 149-passenger vessels being the cheapest per seat mile. Also, 149-passenger vessels are not subject to search and seizure because they are considered too small a target.

Kitsap Transit has been looking at boats and working with boat builders in Bellingham, Tacoma, and Whidbey Island.

The new vessels will be bow and side loading.

By the time the boats are built Kitsap Transit will have vessels with three designs that didn't exist five years ago and are markedly better than the vessels in the water today.

Kitsap Transit expects to have its fleet by the time the Hood Canal bridge needs replaced, at which point they could be made available for construction mitigation.

18. Do you have service performance targets for ferries? If so what are they?

19. Do you have any additional lessons learned or best practices that you would like to share with King County?

Don't try to do it on your own. If you work with private operators, get tight with them and go the sole source route rather than the request for qualifications route. Governments tend to treat contractors as advisories; they should think of them as allies. Contractors are in it 1/4 for you and 3/4 for themselves. Contractors can make friends for you.

149-passenger vessels have many advantages over larger vessels.

Neighborhoods have to be protected from Kiss & Ride traffic.

3. WASHINGTON STATE FERRIES INTERVIEW

Interviewee: Ray Deardorf – Washington State Ferries

March 14, 2005 – 1:30 PM

1. Do you have a formal process for evaluating potential new routes or services? If yes, may we have a copy of your evaluation process?

Typically a new route has its beginning in a planning study. A route will be suggested to address a problem (such as congestion), or because there is a market and an opportunity to serve customers better.

The Seattle-Vashon passenger-only ferry had its genesis in the 1984 – 1985 long-range plan.

Before a new route can be implemented it must be approved by the Legislature. All money that WSF spends is appropriated through legislative process. Typically, a proposed new route is approved by the Transportation Commission before it goes to the Legislature, though the Legislature can also initiate a new route on its own.

A proposed new route also has to go through all the environmental processes – assessing land-side and shoreline impacts of terminals, meeting requirements of local jurisdictions and resource agencies.

Fares must be set and the Washington Administrative Code (WAC) must be revised.

And new routes must be coordinated with transit.

2. In the past 20 years you have added and eliminated passenger only ferry service? Could you summarize the basis of the decision?

In the 1980's the Seattle-Bremerton service was added to provide Bremerton with a quicker connection to Seattle. Passenger-only ferries were viewed as way of accommodating growth in lieu of auto ferries. However, the passenger-only ferry was not reliable, and people were not willing to give up auto ferry trips. Plus, the monohull vessel used had an awful wake and had to slow down.

Later the Tyee was improved to produce less wake.

In 1993 there was a paradigm shift from seeing passenger-only ferries as a supplement to auto ferries rather than as a replacement. The goal was to spread the peak around.

At that time, WSF was in a good financial situation with the Motor Vehicle Excise Tax (MVET). The plan was to add service to Kingston, Southworth, and increased service for Bremerton. The vessels Chinook and Snohomish were built.

Then in 1999 with the passage of I-695, WSF retrenched.

In addition, wake energy along Rich Passage was still problem with the new boats.

There was a lack on the part of the Legislative to provide reliable funding, and Referendum 51 failed – leaving the passenger-only ferries without adequate funding. In response, the Bremerton run was cancelled. Funding for Vashon-Seattle was extended for two more years (to June 2005).

WSF has just published a Ten-Year Passenger Strategy for Washington's Multimodal Ferry Transportation System. The Strategy calls for a passenger-only triangle route between Vashon, Seattle, and Southworth, and reviving the vessels Chinook and Snohomish for the service.

Who knows what the Legislature will decide. The Legislature is split on whether the State should even be in the business of providing passenger-only ferries. They will make a decision by June.

3. Is enhanced system integration with bus and/or rail being planned?

Metro buses connect with the ferries on Vashon.

A large number of passengers transfer from the Southworth vehicle ferry to the Vashon passenger-only ferry.

4. Are vessel engine emissions an issue for POF services? If so what is being done?

Emissions are an issue for any ferry service. WSF is experimenting with biodiesel fuels. The program is going pretty well. The Vashon ferry is using a biodiesel blend.

5. Is vessel wake an issue for POF? If so, what is being done?

The new triangle route would not go through any narrow channels. The new vessels have a lower wake than the old monohull.

6. Are funding changes being contemplated?

There are many alternative funding strategies. The main two for the proposed triangle route are to use part-time crews and increase fares.

7. Is your ferry system part of any innovative partnerships? If so, please describe.

There is a partnership between management and labor. And there is a partnership between ferries and transit operators.

8. Do private developers or employers subsidize operation of your ferry service in any way?

Employers can purchase monthly passes for their employees (part of commute trip reduction).

9. b) If you developed and own the terminal and docking facilities, were private development fees or contributions used to help fund development of the facility?

Yes, WSF owns all terminals. No private development fees or contributions were used.

10. Are any terminals located in joint use facilities? If yes, please describe.

11. Have any terminals stimulated adjacent transit oriented development? If yes, please describe.

No.

Bremerton has embarked on a redeveloped of its downtown. Whether passenger-only ferries have had an effect, who can say?

12. Have any of your terminals raised environmental or neighborhood impact issues? If so please explain.

Yes. On Vashon WSF had proposed to construct a covered walkway, but the residents opposed it. In Seattle, changes to Colman dock are of interest to Seattle and the Pioneer Square neighborhood.

13. What passenger amenities are provided at terminals?

Vending Machines.

Seating at Vashon.

The Seattle facilities are primitive – the terminal still uses a tent which has been temporary since 1989.

14. Are existing facilities adequate? Why or why not?

The existing facilities function well enough to process the number of people for a one or two route system. However, they are neither comfortable nor aesthetic.

15. Are changes to existing facilities or new facilities being planned? If so, why?

There are no plans.

16. Are your terminals, ramps and floats fully accessible at all tide heights? If not, how do you accommodate disabled passengers when ramps are not within ADA requirements?

Yes.

17. Do you have service performance targets for ferries? If so what are they?

If a vessel is more than 5 minutes behind schedule it is considered late. There aren't any set performance targets.

18. Do you have any additional lessons learned or best practices that you would like to share with King County?

Make sure there is market.

Wake issues and environmental concerns should be at the forefront.

The reliability of the funding source is crucial.

4. NEW YORK WATER TAXI INTERVIEW

Interviewee: Tom Fox – New York Water Taxi

March 18, 2005 – 10:00 AM

1. Do you have a formal process for evaluating potential new routes or services? If yes, may we have a copy of your evaluation process?

No. We're entrepreneurs. To evaluate a new route, we hire transportation experts to look at likely ridership for the origin-destination pairs.

We also work with local sponsors, such as large employers or private housing developers, who want ferry service. The local sponsors guarantee x number of people a day from their development or company will use our service. If actual ridership is less than the guaranteed amount, the sponsors pay for the difference.

2. In the past 10 years have you added or eliminated a ferry service? If so, what was the basis of the decision?

Yes. The system is less than three years old. See question 1.

3. Is enhanced system integration with bus and/or rail being planned?

We have asked MTA for several years for system integration, but haven't got anything. We would like to see Water Taxi terminals used as terminuses for express buses, which would save the buses from having to travel so far and contributing to congestion on the bridges. We would also like fare integration; the ferry would be treated as an express bus.

4. Are vessel engine emissions an issue for your agency? If so what is being done?

We are working with the New York State Energy Research & Development Authority on a project to reduce particulate and NO_x emissions.

We also looked into natural gas & hybrid engines. However, these technologies are not yet at the level of efficiency & reliability needed for commercial operation.

5. Is vessel wake an issue for your agency? If so, what is being done?

NY Water Taxi vessels are designed to have minimal wake. We took the wake standards developed for Rich Passage as a maximum allowable wake. All our vessels are ADA accessible. The vessels are also equipped with hospital grade mufflers to reduce noise.

6. What funding sources are used? Are funding changes being contemplated?

Different sources of private capital are the current funding sources.

Many of the docks from which NY Water Taxi operates are City owned docks.

New York City will be constructing new docks suitable for Water Taxi use with $5 million in federal funds and $1.5 million in City funds.

Vessels and operations costs are borne by NW Water Taxi.

7. Is your ferry system part of any innovative partnerships? If so, please describe.

Our tour and travel work is one example. We have joint partnerships with the National Parks Foundation, the Audubon Society, and the Brooklyn Historical Society to provide tours complete with audio guides of New York's parks, wildlife, and working waterfront. We also have a transportation education program for students K-6.

The purpose of NY Water Taxi is to link neighborhoods, parks, and cultural attractions.

8. Do private developers or employers subsidize operation of your ferry service in any way?

See question 1.

9. a) If you do not own the terminals and docking facilities you use, with whom and what type of arrangement, (lease, landing fees etc?) do you have for use of the necessary facilities?

Facilities are leased from private owners on an exclusive use basis. Ports issue request for proposals and grant exclusive use. The City of New York rents landing slots monthly. Rates are based on the hours when the docks are used (higher at peak commute times) and the number of times in a day that the docks are used.[87]

9. b) If you developed and own the terminal and docking facilities, were private development fees or contributions used to help fund development of the facility?

See question 1.

10. Are any terminals located in joint use facilities? If yes, please describe.

11. Have any terminals stimulated adjacent transit oriented development? If yes, please describe.

New York City is looking at land-water connections.

12. Have any of your terminals raised environmental or neighborhood impact issues? If so please explain.

No. NY Water Taxi terminals have a small footprint. Terminals consist of a 20 foot by 30 foot float with ramp to a pier.

13. What passenger amenities are provided at terminals?

Seats, newspapers, and a tourist guide. Seats are designed to provide leg room. There is a café area in back. The crew is friendly.

14. Are existing facilities adequate? Why or why not?

No, more upland shelters are need. Management & maintenance of public facilities is inadequate.

New York Water Taxi is pedestrian oriented – we can go to neighborhood with 5,000 people and we have a market.

15. Are new facilities being planned? If so, why?

[87] For more information on the landing fees charged by New York City, call the City office at 212.487.8387.

Four new terminals are under construction.

16. Are your terminals, ramps and floats fully accessible at all tide heights? If not, how do you accommodate disabled passengers when ramps are not within ADA requirements?

17. Do you have service performance targets for ferries? If so what are they?

No

18. Do you have any additional lessons learned or best practices that you would like to share with King County?

We urge King County to consider a public-private partnership (it's the best & worse of both worlds). The County can provide infrastructure (bonded). Private operators can be regulated by the County, but as entrepreneurs they will get the best return on investment. The County should establish a system of vessel construction. If the County owns the terminals and vessels, if a private operator goes belly up the County can just get another operator.

5. SAN FRANCISCO BAY AREA WATER TRANSIT AUTHORITY INTERVIEW

Interviewee: John Sindzinski – San Francisco Bay Area Water Transit Authority (WTA)

March 15, 2005 – 9:00 AM

1. Could you summarize the reasons for the creation of the WTA?

The organization is 4 years old. Currently existing transit and traffic across the Bay is at capacity, including the bridge, bus and BART systems. The water transit looked to offer an opportunity for growth at a reasonable cost as the waterways are underdeveloped.

2. What is the planning process for new routes and services?

This has been a 3-4 year process. An analysis of ridership was preformed, followed by an EIR statement was completed. Currently an environmental impact report is being completed for a route/terminal to be implemented within the next 2-3 years. In addition to these processes, financial planning and funding plans were developed.

3. If you have a formal process for evaluating potential new routes or services, may we have a copy of your evaluation process?

See Question 2. We have no existing routes or terminals all are new. There is no set process other than regulatory required documentation.

4. Could you describe the planned system integration with bus and/or rail?

Currently funding for water taxi service includes providing feeder buses from terminal locations to bus transit stops.

5. Could you summarize what is being done to address vessel engine emissions?

Plans include purchasing 0 to Low emissions engines for vessels.

6. Is vessel wake an issue for your agency? If so, what is being done?

Vessel wake is an issue. Wake impacts the design of the boat, travel speed and routes. Wake is the reason the WTA is using a double-hulled catamaran for its ferry vessel.

7. How have funding plans for capital and operating expenses changed during the planning process?

As the plans have developed, there has been a better understanding of the needs. Funding plans have become more refined. The WTA is being funded with renewed tax support.

8. Is your ferry system part of any innovative partnerships? If so, please describe.

This is strictly a public transit agency. We are not partnering with developers, other transit agencies, or the existing private water taxi operators.

9. Will private developers or employers subsidize operation of your ferry service in any way?

There are no plans to partner with or receive subsidies from private entities.

10. Will private development fees or contributions be used to help fund development of terminal facilities? (Local cities help pay for terminal facilities?)

No monies are expected.

11. Will any terminals be located in joint use facilities? If yes, please describe.

There will be no sharing of the dock facility. The dock will be owned by WTA. The terminal will likely be located with bus transit, stores and shops nearby.

12. Do you anticipate any terminals to stimulated adjacent transit oriented development? If yes, please describe.

We hope so, but the WTA is strictly an operator and has no plans to invest in development beyond terminal (shelter and parking) and dock facilities.

13. Have any of your terminals raised environmental or neighborhood impact issues? If so please explain.

Parking at the terminal locations has been raised as an issue.

14. What passenger amenities will be provided at terminals?

WTA Water Taxi terminals will have minimal amenities, a ticketing function (vending machine), covered shelter and parking.

15. Will your terminals, ramps and floats be fully accessible at all tide heights? If not, how will you accommodate disabled passengers when ramps are not within ADA requirements?

Yes. All facilities will be ADA compliant at all times. This is mandatory.

16. Will you have service performance targets for ferries? If so what are they?

The WTA will use a farebox recovery ratio to determine service performance. Currently this ratio is set at 40%.

17. Do you have any additional lessons learned or best practices that you would like to share with King County?

No, not at this time.

6. VALLEJO BAYLINK FERRIES INTERVIEW

Interviewee: Martin Robbins – Vallejo BayLink Ferries

March 14, 2005 – 11:00 AM

1. Do you have a formal process for evaluating potential new services or changes in service frequency? If yes, may we have a copy of your evaluation process?

Vallejo BayLink Ferries is municipally owned and directed by the Vallejo city council. Geography, and jurisdictional boundaries, dictate having one route only.

2. In the past 10 years have you increase or decreased the number of daily trips? If so, what was the basis of the decision?

Between 1997 and today we went from 5 trips a day to 11 and added two boats. On April 4, 2005, this will increase to 15 trips per day.

Our long-range plan is to add a new vessel every five to six years.

3. Is enhanced system integration with bus and/or rail being planned?

Vallejo BayLink Ferries are fully integrated with the bus system in Vallejo (both local and regional routes operated by the City). In San Francisco, monthly pass holders can transfer to Muni for no extra charge. There are rail and bus stops right near the ferry terminal. There isn't any schedule integration – the bus and rail services are on five-minute headways. Starting in April, free transfer to Muni won't be automatically provided to ferry pass holders any more. Muni is raising the price we get charged to $35 per pass, so we will start charging customers $15 if they want a Muni pass sticker for their monthly ferry pass.

4. Are vessel engine emissions an issue for your agency? If so what is being done?

The newest vessel (delivered in June) has selective catalytic reduction (SCR). The SCR achieves an NO_x reduction of over 50%. Using the SCR was a voluntary effort. The grant used to pay for the vessel included vague words about "low emissions," but the SCR goes beyond that.

We didn't want to use an untried technology. SCR is used by several ferries in Europe. We visited ferries in Gotland (Sweden) and Oslo (Norway) to look at their systems. In Sweden, vessels are taxed for every pound of NO_x, so there's strong incentive to reduce emissions.

The SCR brings the vessel emissions down below the 2007 EPA regulations. The San Francisco Bay Area Water Transit Authority is also planning to have their vessels SCR equipped. It's an expensive system. The operating cost is about $800 a day. In California private companies can sell emissions credits. The cost of the SCR system is half of what the reduced NO_x emissions could be sold for as emissions credits. However, public agencies can't buy or sell emissions credits.

5. Is vessel wake an issue for your agency? If so, what is being done?

For Vallejo BayLink Ferries, wake has been largely a public relations issue.

Boat designs included wake performance parameters, in response to the Rich Passage lawsuit against WSF. With wake, it is comparatively easy to say one vessel has less than another, but it is hard to quantify. Vallejo BayLink Ferries has had complaints but no lawsuits. Most complaints have been from

tugboat and barge operators, who would request the ferries slow to 18-20 knots. However, our vessels actually create more wake at 18-20 knots than at 35. We worked to educate the other operators about the nature of our wake. Now we have developed a reputation for being able to go fast with low wake. Another source of complaints as been a community built on wooden pilings on a sandy beach near the Vallejo terminal. Now we travel at 10 knots until past this beach. The vessels make no detectable wake at that speed.

We use catamarans with long hulls. The more energy of total energy expended actually moves the vessel forward, the less energy there is to make waves.

6. Are funding changes being contemplated?

Regional Measure 2 (RM2) recently passed and is enabling expansion of service. Current revenue sources are fares and bridge toll money. Bridge tolls are used to pay for the bridges and for services that mitigate use of bridges. Historically there have been two pots of bridge toll money. Each year, Vallejo BayLink Ferries goes into the red and then requests enough bridge toll money from the Metropolitan Transportation Commission (MTC) to balance the budget.

RM2 increased the tolls from $2 to $3. A small pot of RM2 money is earmarked for Vallejo, starting April 4. This will be a 3rd pot of a set amount to be used to increase service.

Salano County is also going for sales tax increase, a portion of which would be for ferry capital. The sales tax measure was already on the ballot this past November. It failed by only a few percent, so it will be brought back to the voters.

We currently get capital through FTA programs 5307 and 5309 and the Ferryboat Discretionary Fund

To save on fuel costs, we are enlarging our fuel storage capacity, so that we can go from daily to weekly delivery. We could conserve fuel by going slower, but that would be bad for the schedule and ridership. If fuel prices get bad enough we may have to charge a fuel surcharge. We've done it before.

7. Is your ferry system part of any innovative partnerships? If so, please describe.

No.

We partner with the private contractors who operate the service. Using a contractor reduces overhead and administration. Blue & Gold operate the Vallejo BayLink Ferries.

We work with other transportation providers, for example, bus service to Napa and the Salano Transportation Authority.

We also work with the Vallejo Chamber of Commerce and the Visitors Center. And we work with the San Francisco Giants to provide ferry service to baseball games.

We do outreach throughout the County, mostly on the Vallejo end. From Vallejo, the ferry serves a large regional catchment area. We're much more focused on the Vallajo to San Francisco travelers. San Francisco to Vallejo travelers is a market with a lot of potential.

8. Do private developers or employers subsidize operation of your ferry service in any way?

Some commuters get their cost subsidized by employers. The employers produce vouchers that the employees can use to pay for ferry passes.

9. a) For the terminals and docking facilities that you lease, with whom and what type of arrangement, (lease, landing fees etc.?) do you have for use of the necessary facilities?

We pay an annual fee in 12 monthly payments.

9. b) For the terminal and docking facilities that you own, were private development fees or contributions used to help fund development of the facility?

No, not private contributions, but it was built with federal grant dollars.

We rent space at the Vallejo terminal to a coffee shop and the Vallejo Visitors Bureau.

10. Are any terminals located in joint use facilities? If yes, please describe.

At the Vallejo terminal, our vessels are the only users.

In San Francisco we share the dock with another service.

11. Have any terminals stimulated adjacent transit oriented development? If yes, please describe.

Not really. Currently the Vallejo terminal just has a bus stop, the ferry, and 1,200 parking spaces. However, there is a waterfront redevelopment plan in process that would result in drastic changes near the terminal over the next 10 to 12 years. The Vallejo terminal would be a multimodal center, with mixed-use residential and commercial development.

12. Have any of your terminals raised environmental or neighborhood impact issues? If so please explain.

The waterfront redevelopment plan is very controversial. Key concerns are traffic and blocking public access to the waterfront. Also, the Vallejo downtown is inland from the waterfront, and the business owners in downtown think that the emphasis should be to move people from the waterfront to downtown.

Parking is the biggest issue. We are concerned about the need for increased parking with the upcoming increase in service. Today, the parking lot eats up waterfront, is a security issue, and is not aesthetic. It's a challenge.

13. What passenger amenities are provided at terminals?

There aren't covered waiting areas where passengers wait in line. Providing cover has proved to be difficult, due to space constraints, environmental concerns, and concerns about blocking the view.

The parking lot is the biggest issue for crime and vandalism.

There is a staffed ticket booth and someone to answer questions.

Schedules posted at both terminals and restrooms are provided. In San Francisco the restrooms are taken care of by the landlord.

Fares are checked once passengers are onboard – like a conductor on a train. We are interested in adding ticket vending machines at terminals and onboard. Online sales are also planned.

14. Are existing facilities adequate? Why or why not? (survey comments about lack of overhead cover, disorder in line)

Passengers would like to have other services available at the terminals, such as a dry cleaner and flower shop.

We wish we had covered, fare controlled, secure waiting areas. However, we don't have space. We don't have space to do security screenings if those become required.

15. Are new facilities being planned? If so, why?

16. Are your terminals, ramps and floats fully accessible at all tide heights? If not, how do you accommodate disabled passengers when ramps are not within ADA requirements?

Yes

17. Do you have service performance targets for ferries? If so what are they?

Mostly informal.

We have over 99% service reliability (the percentage of scheduled services that are actually sailed).

On time performance is tracked after the fact in extreme cases. It is not tracked on an ongoing basis. A ferry is considered late if it is off schedule by more than 5 minutes.

The minimum permitted farebox recovery ratio, per state law, is 40%. Under 40% and an agency is put on probation and is at risk of loosing its subsidy. Vallejo BayLink Ferries' operational farebox recovery ratio (no overhead) is 65%. Our goal is 70%. In the past we've had it as high as 88%. Vallejo BayLink Ferries has the best farebox recovery ratio of the Bay Area ferries.

18. Do you have any additional lessons learned or best practices that you would like to share with King County?

A public-private partnership is the best way to go.

Parking is a huge issue and must be addressed during planning. Most people want to drive to the ferry terminal and minimize the number of times they change modes.

Design the service from a commuter's perspective, from the beginning. In Vallejo they have a Ferry Advisory Committee, which consistently provides great feedback on what is actually important to commuters.

7. SYDNEY FERRIES INTERVIEW

Interviewee: Abe Lifman – Sydney Ferries

March 10, 2005 – 8:00 AM

1. Do you have a formal process for evaluating potential new routes or services? If yes, may we have a copy of your evaluation process?

No because until 8 months ago the ferry system was part of the State Government. Now it has been corporatized and we will be preparing guidelines in the future.

2. In the past 10 years have you added or eliminated a ferry service? If so, what was the basis of the decision?

Yes, service has been added and some services discontinued, but fewer were discontinued than we desired due to lobbying. New routes were implemented based on lobbying and financial analysis.

3. Is enhanced system integration with bus and/or rail being planned?

System has schedule coordination with bus network. Fare integration does not currently exist but is being implemented (bus-ferry-rail) in near future. Previously when bus and ferry were both operated by State Government there was some limited fare integration.

4. Are vessel engine emissions an issue for your agency? If so what is being done?

Yes but nothing done so far. Subject is being researched and they expect to start operating a biodiesel pilot project within 3 months. There are currently no regulations but probably Australia will adopt the IMO (International Marine Organization) standards in the future.[88]

5. Is vessel wake an issue for your agency? If so, what is being done?

Wake and wash is an issue on the river ferry services along the Paramatta River. Problem is erosion along the river and complaints are being heard from local councils. The problem will be addressed in the future by purchasing new vessels with a low wash design.

6. Are funding changes being contemplated?

The Corporatization of the service has increased need to meet financial targets and increase revenues. Annual business plans are now required and Corporation must meet targets. No longer are unlimited subsidies going to be available. As part of Government costs were often hidden in larger Transport Department budget.

7. Is your ferry system part of any innovative partnerships? If so, please describe.

No, but we have good cooperation with private sector and when we need a spare vessel due to a breakdown the private sector provides a vessel on short notice.

[88] Note: The IMO standards are very weak and permit emissions well above US regulations.

8. Do private developers or employers subsidize operation of your ferry service in any way?

No.

9. a) If you do not own the terminals and docking facilities you use, with whom and what type of arrangement, (lease, landing fees etc?) do you have for use of the necessary facilities?

9. b) If you developed and own the terminal and docking facilities, were private development fees or contributions used to help fund development of the facility?

The system has more than 60 terminals (Wharves) of which six are owned, including the two main terminals. The remaining 54 Wharves are owned by town councils and Waterways (their version of the Coast Guard). In some cases they pay rent/use fees, but in others the wharves are provided free as an incentive to attract ferry service.

No developer fees but a new terminal is being built that will have private development commercial, retail and residential space.

10. Are any terminals located in joint use facilities? If yes, please describe.

Not yet. A new terminal being designed/built in Manly will have commercial/retail/residential uses.

On the marine side some facilities are shared with other marine users.

11. Have any terminals stimulated adjacent transit oriented development? If yes, please describe.

Circular Quay (the downtown Sydney terminal) has stimulated some commercial and residential development along the eastern side of the terminal.

12. Have any of your terminals raised environmental or neighborhood impact issues? If so please explain.

Not the terminals, however the maintenance facility in Balmain has raised environmental issues for neighbors which are residential. The facility has 3 maintenance berths and is the middle of a gentrified residential neighborhood.

13. What passenger amenities are provided at terminals?

New regulations for disabled access are causing problems. There is not consistency among terminals or fleet. Floats, ramps and vessel freeboards are all different. Some vessels have to carry special gangways.

Up to owners of wharve to provide other amenities such as benches, shelters etc. Except at two main terminals facilities and amenities are very limited.

14. Are existing facilities adequate? Why or why not?

No, see 13.

15. Are new facilities being planned? If so, why?

No none at this time except for rebuilding of Manley. Last new wharve was at Longbush for the Olympics in 2000.

16. Are your terminals, ramps and floats fully accessible at all tide heights? If not, how do you accommodate disabled passengers when ramps are not within ADA requirements?

No, but situation varies by terminal and vessel. Some vessels carry special gangways to help.

17. Do you have service performance targets for ferries? If so what are they?

Not currently, however developing KPI, Key Performance Indicators for system is a priority item. Development is underway, but so far nothing has been established.

18. Do you have any additional lessons learned or best practices that you would like to share with King County?

Two critical areas – get right people to run service. Needs people with operating experience preferably marine experience.

Secondly match vessels, terminals and routes. Don't buy/build vessels before routes are selected. Vessels must match conditions, demand on route.

8. VANCOUVER SEABUS INTERVIEW

Interviewee: Ross Stevens – Coast Mountain Bus (Vancouver SeaBus)

March 10, 2005 – 10:00 AM

1. Do you have a formal process for evaluating potential new routes or services? If yes, may we have a copy of your evaluation process?

Coast Mountain Bus does not. TransLink is the parent company. TransLink is responsible for transit, some bridges and roads, air quality monitoring, etc, and is the one to make decisions about new routes or services. Recently, TransLink initiated a study to look at other ferry routes.[89]

2. In the past 10 years have you added or eliminated a ferry service? If so, what was the basis of the decision?

There have been no changes. TransLink has said it plans to add a 3rd ferry by 2009, but has not said whether the 3rd ferry will be used for new routes, increased frequency, or simply as a spare.

3. Is enhanced system integration with bus and/or rail being planned?

No enhancement is planned. Currently, bus services are a short walk from both the Vancouver and North Shore terminals. Skytrain and West Coast Express trains are less than a five minute walk from the Vancouver terminal. At the North Shore terminal, the buses are timed to meet the ferries, which arrive every 15 minutes.

4. Are vessel engine emissions an issue for your agency? If so what is being done?

Emissions haven't been an issue, but may be in the future with changing regulations.

5. Is vessel wake an issue for your agency? If so, what is being done?

When the service first started, ferries ran at full speed. A number of old floats and docks were damaged by wash. A court settlement limited SeaBus to 11.5 knots. Eight years ago, bridge construction near the route was causing SeaBus delays and congestion. The limit was lifted at our request. SeaBus still usually travel at 11.5 knots, but can run at full speed when warranted.

6. Are funding changes being contemplated?

All money is handled through TransLink. Fares are fully integrated between buses, SkyTrain, and SeaBus, which makes it hard to figure out farebox recovery per mode.

7. Is your ferry system part of any innovative partnerships? If so, please describe.

No innovative partnerships, however this could change for TransLink. TransLink is one of the partners for the potential rapid transit line from the Richmond Airport to downtown Vancouver, which is being pursued as a public-private partnership.

[89] *Vancouver Harbour Passenger Marine Study*, available at www.translink.bc.ca/Library/Planning.asp

8. Do private developers or employers subsidize operation of your ferry service in any way?

No.

9. b) If you developed and own the terminal and docking facilities, were private development fees or contributions used to help fund development of the facility?

10. Are any terminals located in joint use facilities? If yes, please describe.

A private operator of a fast ferry rents use of the south terminal from TransLink

11. Have any terminals stimulated adjacent transit oriented development? If yes, please describe.

The area around the Vancouver terminal has seen growth in transportation options. The ferry was the first in the area, then SkyTrain, and then the West Coast Express.

In North Vancouver there has been substantial growth in residential and commercial development. It is not uncommon to see new condominiums advertised as "Close to Seabus," and there will likely be more of this in the future. Who knows how much SeaBus is the cause of the development, but it has been occurring near the SeaBus terminal.

12. Have any of your terminals raised environmental or neighborhood impact issues? If so please explain.

There have been minimal issues with the terminals. When the SeaBus started, the North Vancouver terminal was in the "middle of nowhere." We have to be more aware of our neighbors, for example – not blowing the horn in the morning, now that it is built up.

13. What passenger amenities are provided at terminals?

Washrooms are provided, though there have been problems including vandalism. The washrooms have been more trouble than they're worth, especially since SeaBus is the only operation with washrooms in the TransLink system. The washrooms aren't really necessary.

14. Are existing facilities adequate? Why or why not?

Yes, we're happy with the current facilities.

15. Are new facilities being planned? If so, why?

No, as far as Coast Mountain Bus knows.

16. Are your terminals, ramps and floats fully accessible at all tide heights? If not, how do you accommodate disabled passengers when ramps are not within ADA requirements?

Yes, fully accessible

17. Do you have service performance targets for ferries? If so what are they?

We try to achieve 100% on-time performance.

18. Do you have any additional lessons learned or best practices that you would like to share with King County?

Consider the passenger flow off of ferries and design the terminal and connections to the surrounding area to achieve pedestrian free flow even at peak use.

9. VICTORIA HARBOUR FERRY COMPANY INTERVIEW

Interviewee: Brian Wesley – The Great Little Boat Company (Victoria Harbour Ferry Company)

March 9, 2005 – 2:00 PM

1. Do you have a formal process for evaluating potential new routes or services? If yes, may we have a copy of your evaluation process?

Yes, but the process is proprietary. Victoria Harbour Ferry Company (VHF) sells a turnkey system, and will evaluate potential services as part of a contractual agreement.

2. In the past 10 years have you added or eliminated a ferry service? If so, what was the basis of the decision?

Service has been added due to increased demand.

3. Is enhanced system integration with bus and/or rail being planned?

In Victoria, almost 100% of passengers arrive and depart by foot or bicycle. Due to the size of the vessels, the system would not be able to accommodate large influxes of passengers arriving at the terminal by bus or rail. However, enhanced integration may be required in other places.

The Victoria Harbour Ferry model is to

- Connect convenient origin and destination pairs along the waterfront
- Provide a feeder system to a larger capacity system (bus, train, ferry, etc.)

4. Are vessel engine emissions an issue for your agency? If so what is being done?

Emissions are not an issue. Victoria Harbour Ferry Company is sensitive to emissions concerns, especially as it operates in confined waterways. Currently, VHFC is looking at hybrid options for its vessels, including biodiesel.

5. Is vessel wake an issue for your agency? If so, what is being done?

Wake is an important consideration in the environment of Victoria Harbour. To address this, Victoria Harbour Ferry uses low wake vessels and limits speeds to 7 knots. Victoria Harbour Ferry has routes located in the same area as rowing clubs, other recreational boaters, and the Olympic crew team, and is in good relations with these other harbor users.

6. Are funding changes being contemplated?

No, 100% farebox recovery ratio.

7. Is your ferry system part of any innovative partnerships? If so, please describe.

Not currently, but are just reaching the point of considering partnerships. VHF is only recently looking to expand outside of Vancouver & Victoria.

8. Do private developers or employers subsidize operation of your ferry service in any way?

No.

9. a) If you do not own the terminals and docking facilities you use, with whom and what type of arrangement, (lease, landing fees etc?) do you have for use of the necessary facilities?

The arrangement for docks not owned by VHF vary. At some docks VHF pays an annual landing fee. Some hotels and restaurants own docks and allow VHF free, and sometimes exclusive, access. These businesses recognize that the ferry brings value to them. For example, VHF carries 30,000 passengers annually to a public dock facility that includes a restaurant and coffee shop, outside of the high-density inner harbour area.

VHFC does not pay any per use fees. Where it does pay to use a dock it does so on an annual or two year contract basis.

9. b) If you developed and own the terminal and docking facilities, were private development fees or contributions used to help fund development of the facility?

Private development fees and contributions were used for the docks that VHF owns – VHF is a private company.

10. Are any terminals located in joint use facilities? If yes, please describe.

Yes. Where a dock is shared with other users a yellow line is painted on the dock to denote the part of dock for VHF use.

11. Have any terminals stimulated adjacent transit oriented development? If yes, please describe.

Not to the knowledge of VHF.

12. Have any of your terminals raised environmental or neighborhood impact issues? If so please explain.

No.

13. What passenger amenities are provided at terminals?

Park benches, hours of operation signs, illumination at night. Some hotels have provided covered areas on their docks (with the hotel name on the awning).

14. Are existing facilities adequate? Why or why not?

Yes.

15. Are new facilities being planned? If so, why?

Two to three new docks are planned. The expansion has been stimulated be increased residential development (Selkirk one of the new developments) and a large number of cruise ships scheduled to stop in Victoria this year.

16. Are your terminals, ramps and floats fully accessible at all tide heights? If not, how do you accommodate disabled passengers when ramps are not within ADA requirements?

Vessels are not ADA compliant under any circumstances.

17. Do you have service performance targets for ferries? If so what are they?

Service targets are informal. The ability of the skippers to communicate in real-time (via radio) has been instrumental in achieving a high quality of service. Customer service is a top priority.

18. Do you have any additional lessons learned or best practices that you would like to share with King County?

Keep it simple.

Use private sector operation model with cooperation from local government and local communities (including the business community).

Small vessels help to keep costs down, both operating & capital, vessel & terminal.

Provide good training and support to operating personnel.

A minimalist approach is good for the community (including the environment) and does not cost taxpayers.

Easy connectivity across water bodies using a “harbor hops” model can contribute to economic development and enhance the quality of life for local residents and a unique and memorable experience for out of town visitors.

19. Additional comments.

Victoria Harbour Ferry is a niche service that takes a minimalist approach. The ferry picks passengers up where it is convenient for them and drops them off where it is convenient – providing door-to-door service between harbor destinations.

The service is adjusted seasonally based on changes in demand.

Operating cost for the vessels are low.

Part of the strategy of VHF is to “create an experience.” The skippers get to know passengers, creating a friendly village feeling. Additionally, the vessels have an aesthetic attraction.

VHF operates two routes in a “L” configuration, with the convergence of the “L” in the Victoria central harbor. They are set routes with the potential for deviation.